SELECTED MACRO-ECONOMIC VARIABLES AND FINANCIAL PERFORMANCE OF COMMERCIAL BANKS IN SOUTH SUDAN

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A RESEARCH PROJECT SUBMITTED TO THE SCHOOL OF BUSINESS, ECONOMICS AND TOURISM IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION (FINANCE OPTION) OF KENYATTA UNIVERSITY

NOVEMBER, 2023

DECLARATION

DECLARATION BY CANDIDATE

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

Signature……. date……

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DECLARATION BY SUPERVISOR

I confirm that the work in this research project was done under my supervision.

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DEDICATION

I dedicate this research project to my family especially my mother Atong Agok Doka, my sister Anna Ating Yai and to my brothers Ngor Yai, Ajuk Yai, Garang Yai, Ngor Kuany, Nhial Yai, Del Yai for their support emotionally and financially till the very end.

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ABBREVIATIONS AND ACRONYMS

BOSS	Bank of South Sudan
CBK	Central Bank of Kenya
CBR	Central Bank Rate
CBSS	Central Bank of South Sudan
CIS	Collective Investment Schemes
CLRM	Classical Linear Regression Model
EPS	Earnings Per Share
GDP	Gross Domestic Product
INTC	Interest Rate Changes
KNBS	Kenya National Bureau of Statistics
NACOSTI	National Commission for Science, Technology, and Innovation
PAT	Profit After Tax
ROA	Return on Assets
ROE	Return on Equity
ROI	Return on Investment
ROS	Return on Sales
SPSS	Statistical Package for the Social Sciences

OPERATIONAL DEFINITION OF TERMS

Consumer Price Index	A measure that examines at the weighted average of pricing for a selection of consumer goods and services including food, healthcare, and transportation.
Exchange Rate	The exchange rate used to convert one currency into another. It is measured by South Sudan Pounds to one United States Dollar.
Financial Performance	Capacity to convert company equity or assets into owners' returns. It is measured using Return on Equity.
Gross Domestic Product	The total value of goods produced, and services provided in a country during one year. It is measured by the GDP growth rate.
Gross Domestic Product	Compares the year-over-year change in a country's economic output to measure how fast an economy is growing. It is measured using growth rate.
Inflation	General increase in the cost of goods and services in economy overtime. Measured using producers price index.
Inflation Rate	The percentage increase or decrease in prices during a specified period usually a month or a year. It is measured by the Consumer Price Index.
Interest Rate	It is a loan's proportion that is charged as interest to the borrower, typically expressed as an annual percentage of the loan outstanding. Central Bank Base Rate is used to measure the Interest Rate.
Macro-Economic Variables	The variables indicating functionality of an economy in its entirety or for its key aspects, instead of that of its specific households, firms or industries. It is measured using economic growth rate.

ABSTRACT

Banks have not appropriately presented stable financial performance for the past years which is accredited to political meddling, misuse of funds, poor instituting of internal control practices and prudential auditing values. Banks are essential in every country's economy due to their contribution in the economy. However, the intermediation provided by banks depends on the efficiency of the bank. Commercial banks in South Sudan have continued to experience poor performance. This has been a significant source of concern for the South Sudan's financial sector over the years. Studies on financial performance and macroeconomic factors have largely not been based on South Sudan Banks. The general objective of the study was to establish the effect of selected macro-economic variables on financial performance of commercial banks in South Sudan. The specific objectives of the study were to determine the effect of interest rate, gross domestic product, inflation rate and exchange rate on financial performance of commercial banks in South Sudan. Theory of Arbitrage pricing, Interest Rate Parity theory, Deflation theory and Efficient Markets theory supported the study. The research may be important to micro finance institutions, SACCOs and other players in the financial sector can give sufficient knowledge on how macro-economic factors affect financial performance, potential investors and the already existing ones could also find the study useful in undertaking investment decisions to make investment targets and portfolios better, researchers as well as scholars may find the study valuable since it can be used for reference for future research. The study adopted explanatory research design. A census of 29 commercial banks listed in South Sudan that were in operation from 2012 to 2020 were targeted. The audited financial statements of the listed commercial banks served as the source of secondary panel data. Data collection was by use of a document review guide. Data analysis for the study was by use of regression model and correlation. The study was based on Vector autoregressive (VAR) model to assess relationship between macro-economic variables and financial performance of commercial banks. Prior to carrying out the regression analysis, diagnostic tests namely normality test, stationarity test, heteroscedasticity, autocorrelation and cointegration were conducted. The results of the analysis were presented in tables. The vector Autoregression reported that inflation was not statistically significant. From the findings of the study, it was established that interest rate has no significant effect on financial performance of commercial banks in South Sudan; Gross domestic product has no significant effect on financial performance of commercial banks in South Sudan; inflation rate has no significant effect on financial performance of commercial banks in South Sudan and exchange rate has no significant effect on financial performance of commercial banks in South Sudan. The study suggests that commercial banks' management committees continuously monitor inflation rates in order for them to adjust their loan products and services in line with the inflation rate; commercial banks should design dynamic interest rate policies that would lead to growth by attracting many customers; and commercial banks should ensure that the business environment is favorable in order to encourage investment in them since they have the ability to offer a variety of financial services.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Banks as the main financial institutions contribute a lot in mobilizing financial resources throughout the economy of any country. Banks play a crucial role in providing financial stability and economic prosperity (Were & Wambua, 2014). Both bank level and macro-economic levels play a significant role in determining a nation's banking system's profitability. The earnings and profitability of the bank are the main metrics used to assess its performance. The difference between total revenue and total costs is what is referred to as profitability. As a result, the factors that impact the bank's revenue and expenses are also those that affect the commercial bank's profitability. As a result, the impact of the factors within and without the commercial bank revenue is examined in order to demonstrate how they affect the income and expenses of the bank (Alper & Anbar, 2013).

In any economy, a number of variables influence how profitable the banking business is. Most studies categorize the factors that determine how well commercial banks perform into two groups: internal factors and external factors (Khrawish, 2014). One of the difficulties commercial banks faced in order to improve their financial positions and prepare for the threats brought on by globalization was profitability. A prosperous banking industry can resist adverse conditions and add financial system's firmness (Almumani, 2013).

In Germany for example, Banks have been performing well but deteriorated in the year 2018.Profit before taxes for the fiscal year decreased from 27.5 billion in 2017 to 18.9 billion in 2018. Return on assets decreased to 0.23% of total assets, a level which

in recent times was only lower during financial crisis but not the other years. The country's Commercial Bank have been performing better. In USA, most of the banks have been performing well due to the financial stability and economic growth of a nation for many years, good management of financial institutions. In African countries such as South African Banks have been performing well and sometimes poor. Poor performance of many banks in Africa is due to political instability which leads to low income of the citizens (World Bank, 2019).

Central Banks in many developing countries especially in Africa face challenges in implementing effective monetary policy systems. The challenges faced by these banks due to the high debts by the government. This situation is accompanied by constraints in estimating fiscal-pressure and money- demand to increase the financial base and increase tax revenue (McCarthy, 2016). Monetary authorities in less developed countries are also characterized by inadequate records of monetary policy initiatives administration, this is the central banks are not independent of the government (Koki, 2015).

The working conditions of many financial institutions is not predictable because of the tough competition in the global market and the financial sector. For banks to survive, the key players in the banking industry give lending rates that attract customers so as to attract as many customers as possible (Hayek, 2013). Mobilization of savings, allotment of scarce economic resources and risks spreading is enhanced by commercial banks. Financial institutions and banks do incur some costs because the expected receipts for loans and deposits are not synchronized and commercial banks always charge a fee for the offered intermediation services (Mulwa, 2015).

The component that is more important of a financial system of a nation is its banking system. One of its functions is capital provision in which banks direct money from economic units which are surplus to economic units which are deficit (Rasiah, 2014). The banks performance has remained extremely low due to their ineffectiveness in performing their functions as financial intermediaries not withstanding previous and ongoing reforms seen in many African countries including Nigeria. Banks have continued to perform poorly and this has led to significant levels of liquidity risk and in most cases, a loss of investor and consumer confidence. Additionally, this has contributed to financial intermediation's high cost that many financial institutions charge (Agade, 2016).

The economy of South Sudan mostly depends on oil export which is the main export commodity in the country. It contributes to 90% of the country's income and 65% GDP. The oil sector has continued to be the main contributor of economic growth but due to the nature of South Sudan economy, which is currently mainly on cash basis, with very low usage of bank cheques, the financial institutions (Commercial banks) have step up to play a very critical role in economic growth and financial stability through resource allocation. One of the major contributions by the Banking sector is the allocation of funds from creditors to debtors in an efficient manner (Kimani, 2015).

1.1.1 Macro-Economic Variables

Macro-economic variables that have an impact on a country's entire economy include interest rates, exchange rates, inflation and gross domestic products (Ajayi, 2012). The monetary authority of a country creates these policies which act as operational guidelines. The monetary authority makes judgments about monetary policy to make

sure that the money supply reflects the country's goals for price and growth (CBK, 2015). Additionally, monetary policy controls prices in an economy guaranteeing price stability and a low and consistent level of inflation (Mulwa, 2015).

The interest rate on loans provided to banks by the appropriate authority is called Central Bank Rates, (Macharia, 2015). The rate of interest is set, determined and reviewed committee on the monetary policy which is done within two months. A rise in Central Bank rates leads to a rise of interest rates of other banks. This leads to reduction of the bank's profitability (Koki, 2013). One of the vital monetary policy tools used by Central Bank in a nation is money supply. Money supply is the total amount of money in circulation in a certain economy over a specific duration of time. These include possessions held by both organizations and individuals such as money, coins and savings accounts that can be used for payments and momentary investments (Waweru, 2013).

Rising of prices of commodities in an economy of a country over time within a specified period is referred to as inflation. Inflation is usually assessed using consumer price index (CPI) which is based on prices of services and commodities in a given economy of a country. The most common method for measuring inflation is to contrast the consumer price index for one month to the consumer price index of the one month in the previous year. Inflation is usually caused by several factors within and without the countries market. For instance, during drought the price of food may increase leading to increase in the inflation rate (CBK, 2015).

Another macro-economic factor is the exchange rate. This is the official currency of exchange rate among different nations. It is the exchange rate needed to convert one currency into another (Atanda, 2012). A diminishing exchange rate of local currency

in comparison to its foreign counterpart signifies depreciation of the domestic currency as in the case of the South Sudan's pound when compared to the US dollar or as a proxy for exchange rate in this study (Kimani, 2015). Another significant variable is the Gross Domestic Product (GDP), which measures the entire amount of goods and services produced in a country in one year. It also measures total income since the payment for the total production go to the producers of those goods and services. Interest rate is the cost of credit or the cost of borrowing money (Ongore&Kusa, 2015).

1.1.2 Financial Performance

Financial performance is the process of measuring the results of a firm through monetary basis. Shareholders and other interested parties are able to determine how well a firm uses its resources through financial performance (Ongeri, 2014). Financial performance of affirm can help attract investors since investors are most likely to invest in firms which have a high financial performance since they obtain the highest returns possible. It is every firm's aim to maximize returns, minimize cost and maximize profits and shareholder's wealth (Pandey, 2012).

The financial indicators commonly used to measure banks financial performance include the amount of money a company makes for each share of its stock (Earning per share), Return on equity (ROE) which is percentage measure of return on shareholders' equity, Return on Investment (ROI) which is simply profit on investment or yields in sales as well as growth of sales (Mulwa, 2015). Additionally, there are ratios that are used to assess a company's performance which is typically summed up as growth and profitability (Illyukhin, 2015). They include revenue growth, return on equity (ROE), return on investment (ROI), return on assets (ROA),

return on sales (ROS), market share, liquidity, stock price, market shares and sales growth. The major indicators of how well commercial banks are performing financially are return on equity (ROE) and return on assets (ROA) (Ajayi&Atanda, 2012).

To compare the total revenue earned by a company to the total shareholders' equity invested in the company as stated on the firm's statement of financial performance, a technique known as return on equity (ROE) will be used. To calculate return on investment, utilize ROE (Macharia, 2017). It is calculated by dividing net income by total equity capital. The rate of return on the investments made by bank stockholders is thus represented by it. Furthermore, ROE is a reliable measure of how effectively management uses shareholders' funds (Ajayi & Atanda, 2012). In reality, higher levels of ROE translate into higher returns on shareholders' capital (Mulwa, 2015). Financial performance will be gauged using ROE.

According to South Sudan's commercial banks' recently released results, total earnings were much higher in 2017 than in 2016 (CBSS, 2020). Based on the ROE from 2012 to 2020. Table 1.1 presents the financial performance of the overall South Sudan's banking sector.

Table 1.1: ROE of Commercial Banks in South Sudan

Year	ROE
2012	23.01%
2013	22.25%
2014	22.14%
2015	22.02%
2016	21.99%
2017	20.94%
2018	20.88%
2019	17.59%
2020	14.45%
2021	14.35%

Source: World Bank Reports (2012-2020)

Table 1.1 shows the ROE for the years between 2012 and 2021. From the table, the ROE in 2012 was 23.01%, year 2013 was 22.25%, year 2014 was 22.14%, year 2015 was 22.02%, year 2016 was 21.99%, year 2017 was 20.94%, year 2018 was 20.88%, year 2019 was 17.59%, year 2020 was 14.45% and year 2021 was 14.35% which shows a downward trend. This demonstrates how changes in the macro-economic environment have affected society. For instance, the average return on equity in 2020 experienced a significant reduction as a result of the interest rate cap.

1.1.3 Commercial Banks in South Sudan

According to the Central Bank of South Sudan (2017), the country has 29 registered commercial banks. Commercial banks are involved with many activities which include deposits, giving loans, withdrawals and other financial services provided by the banks. The banking industry is very crucial in the banking industry mostly in the

saving and credit provision of credits in the economy. The South Sudan's Central Bank acts as the overall authority in enacting legal procedures and policies to all banks in operating in South Sudan. The banking industry in South Sudan is made of 7 foreign owned banks, 11 national banks and 11 joint ventures while 84 forex bureaus and 8 micro- finance institutions are regulated by the Central Bank (CBSS, 2017).

The banks in South Sudan are categorized into three categories; these are local banks such as Ebony National Bank, Kush Bank, Buffalo Commercial Bank, Agricultural Bank of South Sudan and St. Theresa Rural Development Bank, Regional foreign banks such as Equity Bank of South Sudan Limited, Ethiopia Commercial Bank (South Sudan) and KCB bank of South Sudan limited and International Banks such as African National Bank and Eco Bank (CBSS, 2019). The commercial banks in South Sudan were performing better for quite well sometime but due to civil wars and COVID 19 pandemic, the Banks have been performing poorly. Some of the difficulties faced by banks in South Sudan are high cost of operation, transport facilities in non-urban areas, inadequate technical support, limited diversification across sector, limited access to funds, lack of regulatory framework, scarcity of skilled labor, market demolitions and lack of security and transport facilities in rural areas. (CBSS, 2020).

1.2 Statement of the Problem

Commercial banks in every country are very important to the growth of the economy as they help in the expansion of the market and in order to raise living standards and to expand trade and commerce of the country, there must be formation of sound economic infrastructure of the country (Kamau, 2017). Profitability, which is frequently used to evaluate bank performance because to the complicated operating environment of banks has drawn the attention of both researchers and policy makers

(Rumble, 2017). Cash dividends and retained earnings are only derived from a bank's success making profitability extremely critical for the continued existence of banks as well as their well- being (Ngari, 2018).

Despite the role of the role of commercial banks in the growth of the economy, the report by World Bank (2020) shows that the commercial banks' financial performance in South Sudan measured by ROE has been on a declining trend. According to reports on commercial banks' ROE was reported to be 20.99% in 2017 compared to 2016. The ROE of banks in South Sudan continued to decline from 2018 to 2020 when it was respectively at 20.92%, 20.86% and 17.35% (World Bank, 2020). But this has raised worries throughout the financial sector (Barnes, 2018).

Many studies on the effect of Macro-economic aspects and performance of financial institutions were carried out in developed nations other than South Sudan; Effect of interest rates on the financial performance of commercial banks in Kenya (Wambari, 2017); Impact of inflation and exchange rate on the financial performance of commercial banks in South Africa (Turgut & Delani, 2020) and Effect of gross domestic product on financial performance of collective investment schemes in Kenya (Nyangor, 2020). Investigations carried out in South Sudan concentrated on ROA as a measure of performance such as Role of macroeconomic indicators in Banking sector (Kipngetich, 2018); The effect of selected macroeconomic variables on performance of securities exchange in the East Africa *Community* (Kimanzi, Wambua& Were, 2019) and the effect of selected macro- economic variables on performance of securities exchanges in the East Africa community (Khaled, 2012). Further, some studies were premised on multiple regression; Modern instruments for measuring organizational performance (Nduta, 2017); Foreign Exchange Risk and the Flow of International Portfolio Capital (Fisher, 2018); Relationship between inflation and

financial performance of commercial banks in Kenya (Chege, 2018). In order to close the gap, the current investigation concentrated on the influence of macroeconomic factors on the performance of South Sudan's banks. The evaluation of financial performance will use ROE. Panel data will be used in the study although a panel regression rather than multiple regression will be used to examine the current investigations. Taking into consideration that the study will examine 29 commercial banks. Instead of using multiple regression models, the investigation will employ panel regression. The effect on each unit under observation is taken into consideration in panel data analysis.

1.3 Objectives of the Study

1.3.1 General Objective

The general objective of the study is to determine the effect of selected macroeconomic variables on the financial performance of commercial banks in South Sudan.

1.3.2 Specific Objectives

The specific objectives of the study are:

i. To establish the effect of interest rate on financial performance of commercial banks in South Sudan.
ii. To determine the effect of Gross Domestic Product on the Financial performance of Commercial banks in South Sudan.
iii. To examine the effect of inflation rate on financial performance of commercial banks in South Sudan.
iv. To establish the effect of exchange rate on financial performance of commercial banks in South Sudan.

1.4 Research Hypotheses

The study tested the following research hypothesis:

i. H_{01}: Interest Rate has no significant effect on financial performance of commercial banks in South Sudan.
ii. H_{02}: Gross Domestic Product has no significant effect on financial performance of commercial banks in South Sudan.
iii. H_{03}: Inflation Rate has no significant effect on financial performance of commercial banks in South Sudan.
iv. H_{04}: Exchange Rate has no significant effect on financial performance of commercial banks in South Sudan.

1.5 Significance of the Study

The researcher believes that the outcome of the research study may be important to numerous shareholders such as bank managers, bank directors', investors, policy makers and scholars. The research would also be important to the managers of micro finance institutions as it can give more knowledge on how macroeconomic variables affect financial performance.

Bank managers and directors may have an opportunity to make good and informed decisions regarding corporate decisions and strategies and hence it can enable smooth operations and improved financial performance since macro-economic variables may influence the national industry in various ways. Potential investors and the already existing ones could also find the study useful in undertaking investment decisions to better their investment targets and portfolios.

The policy makers may also find the study useful since it can provide them with the required information to help them make policies that may promote better macroeconomic policies with effect on the banking industry. The financial institutions are very important to the government as it generates revenue through taxes hence the policy makers are concerned with factors affecting the banking industry. Researchers and scholars may find the study valuable since it can be used for reference for future research studies. It can also be used as a basis for further research on impacts of micro-economic variables on commercial banks' financial performance.

1.6 Scope of the Study

The research study was carried out among the twenty- nine registered South Sudan's commercial banks regulated by the Central Banks of South Sudan (CBSS). The study examined the information between years 2012-2021. A number of macro- economic changes have taken place from 2012 to 2021 hence the study was within the ten- year period. The study used macroeconomic factors (GDP, Inflation, Interest rates and Current exchange rates) as independent variable and financial performance that is return on equity (ROE) as dependent variables respectively. Panel regression analysis was used in this research study.

1.7 Limitations of the Study

The research process was faced with various limitations, which however were mitigated through various means. One of the limitations of this study was attributed to the use of secondary data and therefore there was the challenge of getting original data. To overcome this challenge, original data in this research was to be used through obtaining data from audited financial statements.

1.8 Organization of the Study

The first chapter of this research project covered background of the study, problem statement, objectives of the study, research hypothesis, significance of the study, limitations of the study and scope of the study. Chapter two covered conceptual framework and literature review. Chapters three consist of research design, target population, sample design, data collection instrument, data collection procedures, data analysis and presentations and ethical considerations. Chapter four covered data analysis, data interpretation and data presentation while chapter five covered summary of research findings, conclusion of the study, recommendations of the study and recommendations for further research.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The chapter contains the theoretical framework where theories anchored to study have been discussed. Thereafter it covers the empirical literature related to the objectives of the study, then the summary of the research gaps and closes with the conceptual framework.

2.2 Theoretical Framework

The study was supported by the theory of Keynes' Theory of Liquidity Preference, Interest Rate Parity Theory, Deflation theory and Efficient Market Theory.

2.2.1 Keynes' Theory of Liquidity Preference

The theory was introduced by John Maynard Keynes, one of the most influential economists of the 20th century, introduced the theory of liquidity preference in his seminal work, "The General Theory of Employment, Interest, and Money," published in 1936. This theory revolutionized economic thought by offering a new perspective on the determination of interest rates in an economy. Keynes coined the term "liquidity preference" to describe the desire of individuals to hold liquid assets rather than illiquid ones. This preference is influenced by various factors, including the need for transactions, precautionary measures, and speculative motives. Keynes identified three motives for holding money: the transactions motive (to facilitate everyday transactions), the precautionary motive (to guard against unforeseen contingencies), and the speculative motive (to take advantage of expected changes in the value of money) Roll and Ross (1995).

A key tenet of Keynes' theory is the inverse relationship between interest rates and the demand for money. As interest rates rise, the opportunity cost of holding money increases, prompting individuals to prefer interest-bearing assets over cash. The speculative motive is crucial in understanding how individuals adjust their money holdings based on expectations of future interest rates. Keynes argued that people would hold more money if they anticipated a fall in interest rates and vice versa. Keynes proposed a liquidity preference curve that illustrates the relationship between the interest rate and the demand for money. This curve is downward sloping, reflecting the inverse relationship between interest rates and the demand for money Roll and Ross (1995).

The theory assumes perfect competition in financial markets. This assumption allows for the smooth adjustment of interest rates in response to changes in the supply and demand for money. Keynes assumed that expectations regarding future interest rates and yields remain constant. This assumption simplifies the analysis but has been a point of criticism as economic agents' expectations are often dynamic and subject to change. The theory assumes a homogeneity of expectations, implying that all market participants share similar views on future events. This assumption simplifies the analysis but may not reflect the diverse perspectives prevalent in real-world markets.

One major critique of Keynes' theory is its insufficient incorporation of the role of expectations in shaping interest rates. Expectations about future economic conditions play a significant role in determining current interest rates. Modern economists argue that expectations are a dynamic and crucial component of interest rate determination. The theory focuses on the demand for money but does not provide a comprehensive analysis of how the money supply is determined. The relationship between the money

supply and interest rates is a complex interplay that Keynes' theory does not fully address. Some economists argue that the theory oversimplifies the determination of interest rates by attributing them solely to liquidity preference, neglecting other factors such as inflation expectations and real factors affecting the economy. Interest rates are influenced by a multitude of variables, and liquidity preference is just one of several factors at play. Keynes' theory is primarily geared toward explaining short-term interest rate movements. While it provides valuable insights into the dynamics of short-term interest rates, its applicability to long-term interest rates is limited. Long-term interest rates are influenced by factors beyond liquidity preferences, such as inflation expectations, productivity growth, and global economic conditions Roll and Ross (1995).

The link between Keynes' theory of liquidity preference and interest rates is inherent in the concept itself. The theory posits that as interest rates rise, the demand for money falls, and as interest rates fall, the demand for money rises. The speculative motive, influenced by expectations of future interest rate changes, plays a crucial role in the theory by affecting individuals' decisions to hold money or invest in interest-bearing assets. The equilibrium in the money market, where the supply of money equals the demand for money, occurs at a specific interest rate. This interest rate is the equilibrium interest rate, and it is determined by the interplay of liquidity preferences and the money supply.

Keynes' theory of liquidity preference is a foundational concept in macroeconomics, providing valuable insights into the relationship between interest rates and the demand for money. However, the theory has faced criticism for its simplifications and limitations, particularly in its treatment of expectations and its focus on short-term

interest rate movements. While it may not provide a complete explanation of interest rate determination, Keynes' theory remains a crucial building block for understanding the complexities of monetary economics. Researchers continue to refine and expand upon these ideas to develop more comprehensive models that better capture the intricacies of interest rate dynamics in the modern economy.

2.2.2 Interest Rate Parity Theory

This theory was introduced by Keynesian in the year 1936. According to the theory, changes in the nominal rate of interest are caused by variances in the interest rates between a country's currency and its counterparts in other nations that engage in international trade. The theory is based on the idea that the interest rates in the local economy and those in foreign economies are different. The parity condition is based on the notion that the variations in interest rates between different currencies are explained by a discount for the foreign currency's future rate of exchange when there is no market activity for selling or purchasing currencies (Bhole & Dash, 2002).

According to this idea, parity exists and is essential to financial transactions in order to be profitable and effectively carry out their function as intermediaries, interest on banks loans in order to maintain market share (Pandey, 2009). Higher profitability results from higher interest rates while lower profitability and thus poorer financial performance of banks result from lower interest rates. The theory is useful to this research study as it supports exchange rate between South Sudan pound and US dollar (Markus, 2004).

2.2.3 Deflation Theory

This Theory was developed by Fisher in 1933 and it proposes the idea which holds that a drop in general price levels will result in a decrease in the value of enterprises

and assets which will reduce profitability further and lead to business collapses. Interest rates that fluctuate along with price levels are characterized by a variety of changes that reduce the purchasing power of money. These variations and volatility in profitability factors are viewed as pressures in both the internal and external operational environments that have an impact on the level of indebtedness between creditors and borrowers that lead to loan repayment default. The profitability of the bank and its overall financial performance are hampered as a result of this default. When inflation is well anticipated and interest rates are swiftly changed, more inflation results in increased profitability (Pandey, 2009).

Deflation theory refers to the economic concept that focuses on deflation, which is the sustained decrease in the general price level of goods and services in an economy over time. Deflation is often considered the opposite of inflation, where prices rise. Here are key aspects of deflation theory: Deflation theory assumes that deflation is primarily driven by changes in the supply and demand for goods and services in an economy. A decrease in aggregate demand or an increase in aggregate supply can lead to a general fall in prices. Monetary factors play a significant role in deflation theory. A decrease in the money supply or a contraction in credit can contribute to deflationary pressures. Central bank policies and the overall monetary environment are critical considerations. Advances in technology and increases in productivity are often assumed to contribute to deflation. As technology improves, the cost of production may decrease, leading to lower prices for goods and services.

One major limitation is the potential for debt deflation. If prices fall, the real burden of debt increases, leading to financial difficulties for borrowers. This can create a vicious cycle where individuals and businesses reduce spending, further exacerbating

deflationary pressures. Deflation theory may not fully capture the role of expectations in shaping economic behavior. If individuals and businesses expect prices to fall in the future, they may delay consumption and investment, contributing to a self-reinforcing deflationary spiral. The theory might not account for nominal rigidities, such as sticky wages and prices. In the real world, prices and wages do not always adjust immediately to changes in supply and demand, which can complicate the dynamics of deflation.

Critics argue that deflation theory tends to oversimplify the complex factors that contribute to deflation. Economic conditions can vary widely, and a one-size-fits-all approach may not capture the nuances of different situations. The theory's prescription for deflation often involves increasing the money supply or implementing expansionary monetary policies. Critics argue that such policies may have limitations and can lead to unintended consequences, such as asset bubbles. Deflation theory may not fully account for the impact of global factors on a country's economy. In an interconnected world, international trade, exchange rates, and global economic conditions can influence domestic inflation and deflation.

Deflation can have significant implications for Gross Domestic Product (GDP). A prolonged period of deflation can lead to reduced consumer spending, lower corporate profits, and increased real debt burdens. These factors can contribute to economic contraction and negatively impact GDP growth. Central banks and policymakers often aim to maintain a moderate level of inflation to avoid the adverse effects associated with deflation and promote economic stability. Deflation theory provides insights into the causes and consequences of a sustained decrease in the general price level. However, it has limitations and may not fully capture the complexities of real-world

economic dynamics. The link to GDP underscores the importance of understanding deflationary pressures in the context of broader economic performance.

2.2.4 Efficient Markets Theory

Efficient Markets Theory (EMT) is a financial theory that suggests that financial markets efficiently incorporate and reflect all relevant information. The theory posits that it is impossible to consistently achieve higher-than-average returns through active management or analysis of available information because prices already incorporate and adjust to all available information quickly and accurately. EMT has its roots in the work of economists like Eugene Fama and has been a cornerstone of financial theory since the 1960s.

Efficient Markets Theory assumes that all investors have access to and utilize all available information. This implies that no investor has an information advantage over others. EMT assumes that all market participants are rational and make decisions based on maximizing their utility. Rational behavior implies that investors make decisions based on all available information and with the goal of maximizing returns and minimizing risks. EMT assumes that there are no transaction costs in buying or selling securities. This allows for the assumption that investors can trade freely without incurring any additional costs. EMT assumes that all market participants have the same expectations regarding future market conditions and security prices (San &Heng, 2016).

Behavioral finance research suggests that investors are not always rational and can be influenced by emotions, cognitive biases, and heuristics. This challenges the assumption of rationality in Efficient Market Theory. Critics argue that real-world

financial markets are not perfectly efficient. Market anomalies, such as the existence of consistently successful fund managers and periods of market bubbles and crashes, contradict the notion of market efficiency. Efficient Market Theory assumes that all information is instantly and accurately reflected in asset prices. In reality, there may be delays in information dissemination and processing, leading to temporary inefficiencies. The assumption of zero transaction costs is unrealistic. In reality, investors face transaction costs, taxes, and other frictions that can hinder the efficiency of markets. Some studies have found evidence of market inefficiencies and anomalies that persist over time, contradicting the predictions of EMT. Examples include the momentum effect and value premium. EMT's inability to consistently predict major market events, such as financial crises, challenges its practical application. If markets were truly efficient, such events should be reflected in asset prices beforehand. Andrew Lo's Adaptive Markets Hypothesis argues that markets are not always efficient, and their efficiency can vary depending on market conditions. This challenges the notion of a consistently efficient marke (Pandey, 2017).

The Efficient Markets Theory does not explicitly address the impact of inflation on asset prices, but inflation can influence market efficiency in several ways: If inflation expectations are consistently mispriced, it could create opportunities for investors to outperform the market by accurately predicting future inflation trends. Inflation affects interest rates, which in turn impact the discount rates used to value future cash flows. Market participants must adjust their valuation models to account for inflation, potentially creating pricing inefficiencies. Inflation can affect different sectors of the economy differently. Investors who accurately anticipate sector-specific impacts of inflation may be able to identify mispriced securities (Pandey, 2017).

EMT implies that exchange rates should quickly adjust to new information. However, factors such as government interventions, geopolitical events, and speculative behavior can lead to deviations from efficient pricing in the foreign exchange market. Exchange rates can exhibit inefficiencies, especially in the short term. Market participants may not always incorporate all available information accurately and instantaneously, leading to opportunities for investors to exploit mispricing. Efficient Markets Theory remains a fundamental concept in financial economics, but it has faced substantial criticism and challenges over the years. The assumptions of perfect information, rationality, and no transaction costs are often violated in the real world. Additionally, the theory's limited ability to explain certain market phenomena and predict major events raises questions about its practical relevance. When considering inflation and exchange rates, the efficient markets hypothesis faces further challenges, as these factors introduce complexities that may hinder the instantaneous and accurate adjustment of asset prices. As financial markets continue to evolve, researchers and practitioners are likely to explore alternative theories and models that better capture the complexities and nuances of real-world market dynamics.

2.3 Empirical Literature Review

This entails reviewing earlier research on the same studies on the effects of macroeconomic variables on the financial performance of commercial banks and identifying gaps in the previous studies.

2.3.1 Interest Rate and Financial Performance

Ngari (2016) did a research study on the relationship between interest rate spread and the financial success of Kenyan commercial Banks The census was done in all forty-three registered Kenyan commercial banks and used documented secondary data for

six years between 2007 and 2012. The results of the research study showed that interest rates for larger banks find it relatively difficult to raise funds. Linear model data analysis was used to analyze data and ROA was used to measure financial performance in this study. However, the research study covered a study period of six years while the current study covered a long period of ten years, it also used simple and multiple regression analysis and ROE was used to measure the performance of South Sudan's commercial banks. Moreover, the research study was done in Kenya while the current research study was done in South Sudan which presents a contextual gap.

Wambari (2017) carried out a research study on how interest rates affect Kenyan commercial banks' financial performance. All 43 Kenyan commercial banks were included in the study which used an explanatory research design and a census research approach. The statistical software for the social sciences (SPSS) version 20 was utilized for the study's data analysis which also included secondary data and a multiple linear regression model. The research findings were that deposit interest ratio has a negative effect on the commercial banks financial performance while lending rate ratio has a good impact. According to the study's findings, there is a strong correlation between commercial banks' financial performance and their lending rate ratio. The conclusion of the study was that commercial banks are negatively affected by deposit interest ratio.

Afzal (2018) conducted research on how interest rate changes affect bank profitability. The study examined annual data from 20 banks operating in Pakistan for a period of seven years, spanning the years 2007 to 2014. In order to assess how interest rate changes (INTC) affect return on assets' (ROA), the results showed that

interest rates negatively impacted bank profits. However, the study was carried out in Pakistan which is a developed whereas this study was carried out in South Sudan which is a developing country.

Owusu, Antwi, Banerjee and Antwi (2017) did a research study on the interest rates spread and profitability of commercial banks in South Sudan. The study used ordinary least square regression for a sample of 28 banks. The findings showed that bank spread had a positive impact on South Sudan's commercial banks' profitability, but the relationship was statistically insignificant. The findings showed that although there is a positive association between interest rates and bank profitability although there is a positive relationship that exist between interest rate and bank profitability. This implies that the bank attempts to increase net interest margin by effective and efficiently increasing interest income and lowering interest expense in order to improve profitability. The increase in ROA encourages banks to raise interest margin because the bank also raises interest margin to meet the increase in operating costs. The study utilized simple and multiple regression analysis as well as use ROE to measure the performance of banks. The study used a sample of 28 banks and employed ordinary least square regression and ROA to measure bank performance.

Kipngetich (2018), did a study on the connection between interest rates and the success of Kenyan commercial banks' finances. Regression models were created with interest rates as the independent variable, financial performance as the dependent variable and ROE as the profitability indicator to meet the study's goal. For a five-year period between 2010 and 2015, secondary data was gathered from reports that had already been published. The results of the regression model demonstrate a positive link between interest rates and the monetary performance of Kenyan

commercial banks. The current study covered a longer period of ten years as opposed to the previous study which covered a period of five years.

2.3.2 Gross Domestic Product and Financial Performance

Nyangor (2020) did a research study on the impact of Kenya's Gross Domestic Product on financial performance of Collective Investment Schemes (CIS). Nineteen licensed CIS in Kenya made up the population of the study which employed a casual research design. The research study used quarterly secondary data, which was obtained from the Capital Market Authority, KNBS and CBK for a ten-year period from 2010 to 2019. The results were analyzed using regression analysis based on unit trust, money market funds, balanced funds, equity funds and fixed income funds. The results revealed GDP affects financial performance. The study, however, targeted investment schemes while the current study targets commercial banks.

Zhen Shi and Yung-hu Chiu (2021) did a study on the effect of Gross domestic production on the investment efficiency and financing of China's commercial Banks. From 2021 to 2018, the effectiveness of China's urban commercial banks (UCBs), joint-stock commercial banks (JSCBs) and State-owned commercial banks (SOCBs) was examined. This study combined the Kamel density curve with unfavorable dynamic slacks-based assessment followed by JSCBs while UCBs have the lowest efficiency. The study divided the banks into different categories whereas the current study focused on the South Sudan's commercial banks.

2.3.3 Inflation Rate and Financial Performance

Ajayi and Atanda2017) conducted research on how the performance of Nigerian banks is impacted by monetary policy. The study used the Engle-Granger two-step co-integration methodology with a focus on the years 2004 to 2014. The results of the

study showed that inflation slightly improved the financial performance of Nigeria banks. However, because the study's major focus was on Nigerian commercial banks, the findings cannot be applied to South Sudan. The study therefore concentrated on South Sudan's listed commercial banks.

Macharia (2013) conducted research on the effects of the global financial crisis on the financial performance of Kenyan banks. The research which concentrated on banks that provided financing revealed that inflation had a negative significant influence on the profitability of numerous banks in Kenya. However, the research study focused on banks that offered mortgage services whereas the study was conducted on commercial banks in South Sudan from 2011 to 2021.

Kwakwa (2018), also did a study on the impact of inflation on financial performance of banks in Ghana. The findings indicated that performance is positively but negatively impacted by inflation. However, given that Kwakwa's study was conducted in Ghana, the results may not be applicable to the South Sudan's context. Therefore, this research study tried to address the contextual gap.

Chege (2018) did a study on the relationship between inflation and the financial performance of Kenyan commercial banks. The research was conducted from 2010 to 2017. Data for the study was collected from the annual reports of Kenya's 44 commercial banks. This study used secondary data and to analyze the relationship between inflation and commercial banks' financial performance, correlation coefficients and coefficients of determination were used to determine the strength and nature of the relationship while the test of significance was used to determine the size of the relationship. The study found that as inflation decreases profit increase.

Nevertheless, the study was done on Kenyan Banks between 2010 and 2017 but this research study was conducted on Banks in South Sudan between 2012 and 2021.

Khaled (2019) did a study on the effect of inflation on the financial sector development in Jordan. The study period was between 1993 and 2018. The study population comprised of 50 Commercial banks in Jordan. In order to ascertain the relationship between inflation and financial sector development, secondary data was used in the study. Data analysis on the impact of inflation on the development was done using the coefficient of correlation. The results of the research indicated that there is a positive support of the previous financial sector performance in the current period. The study however was conducted in a developed country, but this research was conducted in a developing country.

Moyo, Delani and Tursoy (2020), did a study to find out the effect of inflation on the financial performance of South African commercial banks for the period between 2003 and2019 to measure the financial performance. ROE was the independent variable whereas the independent variable was inflation. Both the ARDL and DOLS models were applied to the study's objective. The results of the study indicated that a substantial adverse link between ROE and inflation. However, the research study was conducted only on four commercial banks, but this study was conducted in all the Banks in South Sudan.

Pita and Lado (2018) did a study on the relationship between exchange rate and inflation of commercial banks in South Sudan. The research study indicated that neither inflation nor exchange rates were responsible for CPI. The research study concluded that currency depreciation has a detrimental impact on economic performance in South Sudan.

Ebaidalla (2014) investigated on how South Sudan's economy is affected by real exchange rate and inflation misalignment. The research was conducted between 1979 and 2009. The research findings found that economic policy affects equilibrium exchange rate significantly while this study covered the period between 2012 and 2021.

2.3.4 Exchange Rate and Financial Performance

Hossin (2020) conducted a research study on the impacts of fluctuations of exchange rate on financial performance of commercial banks in Bangladesh. Empirical and theoretical studies were reviewed on exchange rate and financial performance. World Bank database website and banks consolidated financial statements provided secondary data. The research study was carried out by using central tendency measures such as descriptive statistics to explain the data. To explain the relationship between Return on Assets (ROA) and exchange rates, correlation analysis was adopted in the study. The study found a negative correlation between exchange rate changes and financial success however was done in a developed country and use ROA to measure performance of the banks while this study was ROE and was conducted in developing countries.

Munyok (2016) conducted research on the effects of exchange rate changes on South Sudan's financial institution performance. The research study found a relationship between exchange rate fluctuations on South Sudan's financial institutions' performance. The study focused only on exchange rate fluctuations and studied all commercial banks; macro- economic variables and financial performance of South Sudan's commercial banks was the focus of the current study.

Adam and Crawford (2018) did a study on the exchange rate management in Sot Sudan. According to the report, there is currently an uncomfortable balance between two regimes on the currency rate. Due to the severity of the impending economic crisis in South Sudan, it is possible that the fixed exchange rate system would disintegrate due to inflation and that the country will return to a dollar- based economy. The current analysis offers suggestions on how the performance of South Sudan's commercial banks can be affected by currency rates.

Chol (2017) conducted a study on the impact of bank stability on the financial performance of commercial banks in South Sudan. The metrics from the CAMEL model served as a reference for measuring stability and its effects on commercial banks' financial performance as assessed by ROA. The CAMEL model served as the fundamental framework for the inquiry. A descriptive research methodology was employed in the research study. South Sudan's 24 commercial banks made up the study's sample population and one senior manager was the focus of the study. The study's approach was mixed as it used both qualitative and quantitative data. While main data was collected using a semi- structured questionnaire, secondary data for the period between 2012- 2017 was taken from audited yearly financial reports. SPSS was used to analyze the data acquired in order to conduct further descriptive and inferential statistical analysis. The results of the study indicated that the financial performance of commercial banks is positively affected by asset quality. In contrast to the study which examined bank performance using return on assets, the current study evaluated the bank performance using return on equity (ROE).

Angelo, Munir and Malenya (2021) did a research study on macroeconomic variables and financial performance of South Sudan's commercial banks. The target population for this study was 30 commercial banks in South Sudan. A purposive sampling

method was used. The researcher considered a longitudinal cohort research design. Panel data for the period of 2014 to 2020 collected from the World Bank data, central Bank of South Sudan and the commercial bank's websites were used in the study, face validity was used for the measurement of the validity of the data. Data analysis included multiple regression and descriptive statistics analysis. Other findings that among the macroeconomic factors examined interest rates had a considerably favorable influence on the financial performance of commercial banks in South Sudan whereas exchange rates had a significantly positive effect. The study used secondary data and focus on all the banks in South Sudan.

2.4 Summary of Literature Review and Research Gaps

The summary of the literature review is made up of author and the year the study was done, focus of the study, the study's key findings, and research gaps in the study and focus of the current study.

Table 2.1: Summary of Literature Review and Research Gaps

Author& Year	Focus of the Study	Key Findings	Research Gaps	Focus of the Current Study
Wambari (2017)	Effect of interest rates on the financial performance of commercial banks in Kenya.	Commercial banks' financial performance is favorably impacted by the lending rate ratio.	The study used one variable.	This study was more than one variable.
Afzal (2018)	Effects of interest rate changes on banks' profitability.	Profitability of banks is negatively affected by deposits with other banks and interest rate.	The study was done in developed country.	This research was done in a developing country.
Kipngetich (2018)	Interest rates and Kenyan commercial banks' financial performance are related.	Interest rates influence Kenya's commercial banks' performance favorably.	The study was done for a period of five years.	This study covered a period of ten years.
Nyangor (2020)	Effect of Gross Domestic Product on financial performance of collective investment schemes in Kenya.	The results revealed GDP affects financial performance.	The study was done on collective investment schemes.	The focus of this study was on Banks.
Zhen Shi & Yung-hu Chiu (2017)	Impacts of Gross Domestic Product on the financing and investment of China's commercial Banks.	The results showed that Gross domestic product effect Banks financial performance.	The study categorized banks.	The performance of all South Sudan's banks was the main subject of this research.

Chege (2018)	Relationship between Kenyan commercial banks' financial performance and inflation.	Inflation decreases profit.	The study was done on Kenyan Banks between 2010 and 2017.	The study was done on banks in South Sudan between 2011 and 2021.
Khaled (2019)	The effect of inflation on the financial sector development in Jordan.	Financial sector performance is positively supported by previous financial sector.	The research was done in a developed country.	This research was conducted in a developing country.
Moyo*et al*. (2020)	The effect of currency rates and inflation on the financial performance of South African commercial banks.	Inflation affects return on equity negatively.	The study was conducted only on four banks.	This study was in all the banks in South Sudan.
Onyango (2017)	Effect of exchange rate fluctuations on Kenya's banking industry's financial performance.	Exchange rates affects the performance of Banking industry in Kenya positively.	Descriptive research design was used in the study.	This study used census sampling design.
Hossin (2020)	Effects of exchange rate variations on financial performance of financial institutions in Bangladesh.	Exchange rate fluctuations have a negative impact on financial performance.	The study was done in a developed country.	This study was conducted in a developing country.
Chol (2017)	Influence of bank stability on South Sudan's commercial banks'	The results of the study demonstrated that the financial performance of commercial banks is impacted positively strong by	Financial Performance will be measured using	The study uses returns on equity (ROE) to evaluate the

		asset quality.	return on assets.	performance of banks.
Munyok (2016)	Effects of fluctuating currency rates on the financial performance of South Sudan's financial institutions.	According to the study, there is a negative correlation between South Sudan's commercial banks' performance and changes in currency rates.	The study focused on exchange rate fluctuations only and studied all financial institutions;	The macroeconomic variables and financial performance of South Sudan's commercial banks was the main focus of the study.
Pita&Lado (2018)	The relationship between exchange rate and inflation in South Sudan	The study concluded that depreciation currency negatively influences economic growth	The period between 1979-2009 was covered in this study.	The study covered the period between 2012 and 2021.

Source: Empirical Literature Review (2017-2020)

2.5 Conceptual Framework

The conceptual framework depicts that you expect to discover during your research. It defines the variable for your study and shows how they may be related to one another. The study's predictor variables include the exchange rate, inflation, interest rate and gross domestic product whereas the dependent variable is financial performance. Conceptual framework was adopted in this study as illustrated in Figure 2.1.

Independent Variables Dependent Variable

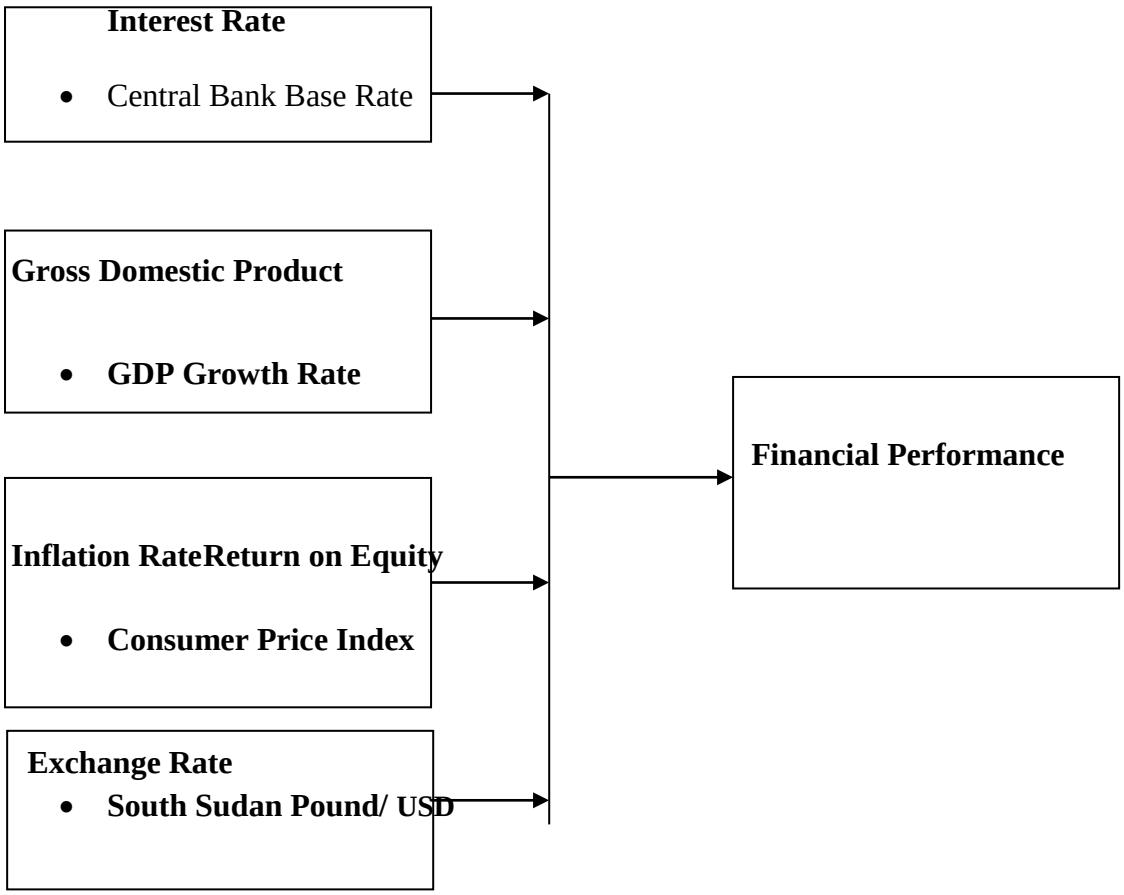

Figure 2.1: Conceptual Framework

Source: Researcher (2023)

The above conceptual framework in Figure 2.1, it indicates that interest rate which is measured using annual percentage rate, GDP which is measured using GDP growth rate, Inflation rate measured using Consumer price index and exchange rate using South Sudan pound to US dollar affects financial performance which is measure using return on equity.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This section shows the method that was used in collecting and analyzing data in the research. It describes, research design, sampling technique, population and instruments for collection of data and procedures, reliability and validity of the study. It also describes how data was processed and analyzed and ethical considerations to achieve the stated objectives.

3.2 Research Design

Research design is a plan and a blueprint strategy of research project designed to find answers the questions to be used in research (Kothari, 2004). Mugenda and Mugenda (2013) contend that design of research provides the guide and route to be followed in a study. The study adapted an explanatory research design because it focuses on explaining the aspect of the study. It helps researchers understand a particular problem in depth. This gives a better comprehension on a specific research topic. In explanatory research design, individuals can understand the cause behind a phenomenon which help the researcher predict future occurrences (Cooper & Schindler, 2011).

3.3 Target Population

Target Population refers to a group of individuals that the study intends to conduct research in and draw conclusions from (Mugenda & Mugenda, 2003). It is a set of all observations under concern (Cooper & Schindler, 2009). Target population on the other hand refers to records, events and people that contain the devised information and can answer the measurement question (Greener, 2008). South Sudan's 29

commercial banks was the target population of this study. The target population provided useful data in answering the research question on how South Sudan's commercial banks' financial performance is impacted by macroeconomic variables.

3.4 Sampling Design

The research study adopted a census of 29 commercial banks in South Sudan. Census refers to the method where all members of the population are studied (Kothari, 2004). Validity of the collected data is enhanced by census approach which is used when the numbers of respondents are relatively few. Further, some commercial banks are owned by the government while others are in privately owned and therefore, differences in objectives, management structures and operations are likely to occur. Its inclusion provided the research study with certain information-rich cases and the study therefore adopted a census design.

3.5 Data Collection Instrument

Secondary data was used in this research study in relation to the financial statements, audited published statements on monetary concerns and CBSS appropriate reports. The Central Bank and commercial banks of South Sudan's audited financial reports for the years 2012 to 2021 was used to collect information on financial performance specifically return on equity. Central Bank of South Sudan website provided information on exchange rate, inflation GDP and interest rate for South Sudan. Document review guide was used to collect data.

3.6 Data Collection Procedure

Secondary data was relied on this study. The data was applied to facts and basis contained in financial performance documentary sources especially from CBSS. It was sourced from published commercial banks' financial statements, statements on

monetary issues and appropriate CBSS reports. The data on financial performance, that is return on equity was extracted from the audited financial statements of commercial banks and Central Bank of South Sudan for the years 2011 to 2021. Data on Interest rate, exchange rate, Inflation and GDP in South Sudan for the period 2011 to 2021, that is ten (10) years were also extracted from the website of the Central Bank of South Sudan. Data was collected with the aid of a document review guide.

3.7 Data Analysis and Presentation

Secondary data is in quantitative form. Data was collected over a 10-year period from all 29 commercial banks in South Sudan. In order to collect and evaluate quantitative data, Stata version 2014 statistical software was used. Inferential and descriptive statistics was the focus of the examination of quantitative data. Descriptive statistics also placed a strong emphasis on computing percentage, Standard deviation, frequency and mean. Technique and approach used to display the movement of observed data over a predetermined time period is referred to as trend analysis (Bryman& Cramer, 2012). In order to examine the correlation between the variables, Vector Autoregression was utilized in the study.

Multiple time series was included in the VAR integration model, which makes it useful as a forecasting tool (Bryman& Cramer, 2012). The VAR model has multiple equations because it uses numerous independent variables. Additionally, each equation uses lags of variables and probably determining trends as its explanatory variables (Bryman, 2013). There is a chance of information getting lost regarding association across integrated series because VAR series models are focused on applying Stationary series for VAR with earlier disparity to original series. Therefore, differencing series to keep them static is one option but at the expense of ignoring the

crucial link between levels. A better option is to use co-integration to assess the reliability of regression levels. A VECM which includes differences and levels can be estimated instead of a VAR in levels if co-integration exists which is typically tested using Johansen's technique.

3.7.1 Empirical Model

The Vector Autoregressive (VAR) model served as the foundation for the model. In contrast to previous models, the VAR model does not impose limitations to identify the system. It avoids oversimplifying the structure and places just the right number of constraints on it to reveal the parameters. Consequently, most VAR models are recently discovered (Lutkepohl & Markus, 2004). A structural model should be able to forecast how much a policy accommodation will impact the whole economy since it allows for the prediction of the outcomes of deliberate policy decisions. The previously discussed variables have helped to identify the variables that would be utilized.

The function is:

FP= (I, GDP, INF, ER, U)

Where:

FP= Financial Performance

I= Interest Rate

GDP= Gross Domestic Product

INF= Inflation

U =Unobservable Variables

Vector Autoregressive (VAR) model was the main method of analysis in these studies. The VAR model which has been used in earlier studies used time series data. According to (Serem and Saina, 2020) to determine the correlation between macroeconomic variables and the Sudan Sudan's commercial banks' financial performance, VAR model was used. Variables co-move towards a long-run equilibrium VAR if the variables have co-integration. AR is often used as a forecasting procedure when at least two time series variables interact with one another. Additionally, there is a bi-directional relationship between variables.

VAR model was used because there is not enough theory to connect these variables and it is not possible to adopt any one theory. The VAR was used because each variable has an equation that explains it and all variables are treated similarly in a structural sense. Structure wise variables are handled symmetrically. VAR'S modeling is also recommended since it is a theory free technique with its evolution dependent on both its own lags and the lags of the other variables in the model and no prior knowledge of the variables is necessary (Sims, 1980).

The model took the form:

FP=$\sum_{i=1a}^{n} fp\,t-i_{+}\sum_{\square=}^{\square}\square\square\square-\square_{+}\sum_{\square=}^{\square}\square\square\square\square-1_{+}\sum_{\square=1}^{\square}\square\square-1_{+}$ μ1

I=$\sum_{i=1a}^{n} It-1+\sum_{\square=1}^{\square}\square\square\square-1+\sum_{\square=1}^{\square}\square\square\square\square-1+\sum_{\square=1}^{\square}\square\square\square\square-1+\sum_{\square-1}^{\square}\square\square$ + μ2

GDP=$\sum_{1=1a}^{n} GDPt-1+\sum_{\square=1}^{\square}\square\square\square-1+\sum_{\square=1}^{\square}\square\square-1+\sum_{\square=1}^{\square}\square\square\square\square-1+\sum\square\square_{\square}+$ μ3

INF=$\sum_{1=1a}^{n} INFt-1_{+}\sum_{\square=1}^{\square}\square\square\square-1_{+}\sum_{\square=1}^{\square}\square\square-1_{+}\sum_{\square=1}^{\square}\square\square\square\square-1+\sum\square\square_{\square}+$ μ4

ER= $\sum_{i=1a}^{n} ERt - 1 + \sum_{=1}^{} \square\square\square - 1 + \sum_{=1}^{} \square\square - 1 + \sum_{=1}^{} \square\square\square\square - 1 +$

$\sum \square\square\square \varnothing + \mu 5$

The VAR involved estimation of regression equations in which the lagged values of each variable and the other variables were used to express the current value of each variable.

3.7.2 Operationalization and Measurement of Variables

Operationalization is achieved by looking at the properties, facets or behavioral dimensions indicated by the concept that are then translated into measurable and observable elements so as improve on the index of concept measurement (Sekaran & Bougie, 2010). In this study, ROE was used to gauge how well South Sudan's commercial banks are performing financially. The main macroeconomic factors (Independent variables) that influence the financial performance of South Sudan's commercial banks are the GDP, interest rates, inflation rates and currency rates. Measures for the exchange rate, inflation, interest rate and GDP growth rate was the central bank charges on loans to banks, consumer price index amount of South Sudan pound to Dollars and GDP growth rate respectively as shown in Table 3.1**.**

Table 3.1: Operationalization and Measurement of Variables

Variable	**Type of Variable**	**Operationalization**	**Measurement**	**Measurement Scale**
Financial performance	Dependent	Return on shareholders	Net Income to Shareholders' Equity	ROE in millions
Interest rate	Independent	Central bank charges on loans to Banks	Central bank base rate	Nominal interest rate
Inflation	Independent	Consumer price	Inflation rate	Consumer price

		index	in %	index.
Exchange rate	Independent	Amount of South Sudan pound to US Dollar	South Sudan Pound/ US Dollar	Exchange rate ratio
GDP	Independent	Income level	GDP Growth Rate	Output

Source: Researcher (2023)

3.8 Diagnostic Test

The test ensures that Classical Linear Regression Model is not violated. The research study runs the risks of having estimates that are biased, inefficient and inconsistent in case of violation. The research used the following diagnostic test such as Normality test, Autocorrelation test, Heteroscedasticity test and Cointegration.

3.8.1 Multicollinearity

According to Cooper and Schindler (2008), indicates the need to test for the multicollinearity to avoid indeterminate regression coefficients and infinite standard errors that affect the dismissal or approval of the null hypothesis. This is because the presence of severe multicollinearity leads to the possibility of making wrong inferences and as such leading to wrong conclusions. The study tested for the multicollinearity based on the correlation matrix for the panel data of 2011 to 2021 based on a threshold of greater than 0.8 or less than 0.8 Variable with high level of collinearity are eliminated.

3.8.2 Normality Test

Distribution of the variables in research is ascertained using Normality test. This is because wrong inferences may be drawn because of the variables' non- normal distribution. AR test was employed (Jackson, 2009). To determine if the data fits a normal distribution normality test was used. The Jarque-Bera test is built upon by

moments of kurtosis and skewness to test for normality (Razali & Wah, 2011). The null hypothesis that residuals follow a normal distribution is not rejected if the Chi square statistic is greater the 0.05. This test's null and alternative hypotheses are expected to have normal distributions and non-normal distributions respectively and both were predicated on a 0.05 level of significance. If the is expected to be regularly distributed, a P- value of less than < 0.05 indicates that it is appropriate to reject the null hypothesis. If the P- value is greater than 0.05, the data was normally distributed.

3.8.3 Heteroscedasticity Test

Violation of an assumption that error term variance is constant is Heteroscedasticity (Hyndman & Anthanasupolous, 2018). Presence of heteroskedasticity leads to least squares model that is not best linear unbiased estimator and wrong standard errors. Heteroskedasticity can be detected through use of residual plots and use of Breusch Pagan (BP) test. Null hypothesis was tested using BP and if the error is homoscedastic against an alternative that is heteroskedastic. P value of less than 0.05 or at 5% level of significance than there is heteroskedasticity. It can be resolved through use of robust standard errors or feasible generalized least squares.

3.9 Ethical Considerations

In this research study, ethical considerations are very important. Ethical considerations help to guide research on what is right or wrong. Ethical principles were highly followed in the study process. Falsification and fabrication which are unethical practices was avoided.

CHAPTER FOUR

RESEARCH FINDINGS AND DISCUSSION

4.1 Introduction

This chapter will present a detailed presentation of the analysis and interpretation of the findings. Once data have been gathered, it was keyed into SPSS tool where the analysis was done systematically as informed by the specific objectives.

4.2 Descriptive Statistics

The following table shows descriptive statistics of the research study.

Table 4.1 Descriptive Statistics

Variables	Observations	Mean	Standard deviation	Minimum	Maximum
ROE	290	0.1996	0.0104	0.1435	0.2301
Interest rate	10	0.1395	0.0065	0.0972	0.1721
Inflation	10	0.8787	0.3696	-0.0010	3.8000
Exchange rate	10	1.1610	0.4170	0.0295	4.3205
GDP growth rate	10	0.0224	0.0708	-0.5133	0.2980

Source: Research Data (2023)

The mean ROE for the dataset was 19.96%, mean interest rate was 13.95%, mean inflation was 87.87%, man exchange rate was 116.1%, while mean GDP growth was

2.24%. The standard deviation for ROE, interest rate, inflation, exchange rate, and GDP growth was 3.28%, 2.05%, 116.87%, 131.85, and 22.39 respectively. This indicates that there was a huge disparity in inflation and exchange rates in the dataset. The lowest inflation rate was -0.1% while the highest was 380%, this is a substantial margin between the two interest rates within a ten-year period. On the other hand, the minimum exchange rate in the dataset was 2.95% while the maximum was 432.05%, this shows a huge disparity in margins which is an illustration of instability in the currency exchange market in South Sudan. The ROE and interest rates have the lowest disparity in the dataset, which could be an indication of stability in these financial variables.

4.3 Trend Analysis

Trend analysis is done on research data to provide the basic performance of the variables under study. The analysis shows the performance over a period of ten years.

4.3.1 Trend Analysis on ROE

ROE in Figure 4.1 shows over the years since 2012 there has been a downward trend on return on equity in two phases; between 2012 and 2018 the decrease was gradual. Between 2018 and 2021, ROE decreased rapidly, and this shows that the economy of South Sudan was not in good state between the years 2012 to 2021.

The trend analysis of the study variables of commercial banks in South Sudan is as shown in Table 4.2 for a period of ten (10) years from 2012 to 2021.

Table 4.2: Trend Analysis of the Study Variables

Year	(ROE)	Interest Rate	Inflation	Exchange Rate	GDP
2012	23.01%	14.71%	45.50%	2.95%	-51.33%
2013	22.25%	14.10%	-0.10%	2.95%	29.80%
2014	22.14%	14.10%	1.70%	2.95%	27.97%
2015	22.02%	12.55%	52.80%	16.52%	6.87%
2016	21.99%	9.72%	380.01%	83.91%	-6.64%
2017	20.94%	13.38%	187.90%	127.94%	-3.49%
2018	20.88%	15.83%	83.50%	154.03%	-3.84%
2019	17.59%	12.70%	87.20%	160.42%11.38%	
2020	14.45%	15.16%	29.70%	177.28%	3.05%
2021	14.35%	17.21%	10.50%	432.05%	1.00%

Source: Research Data (2023)

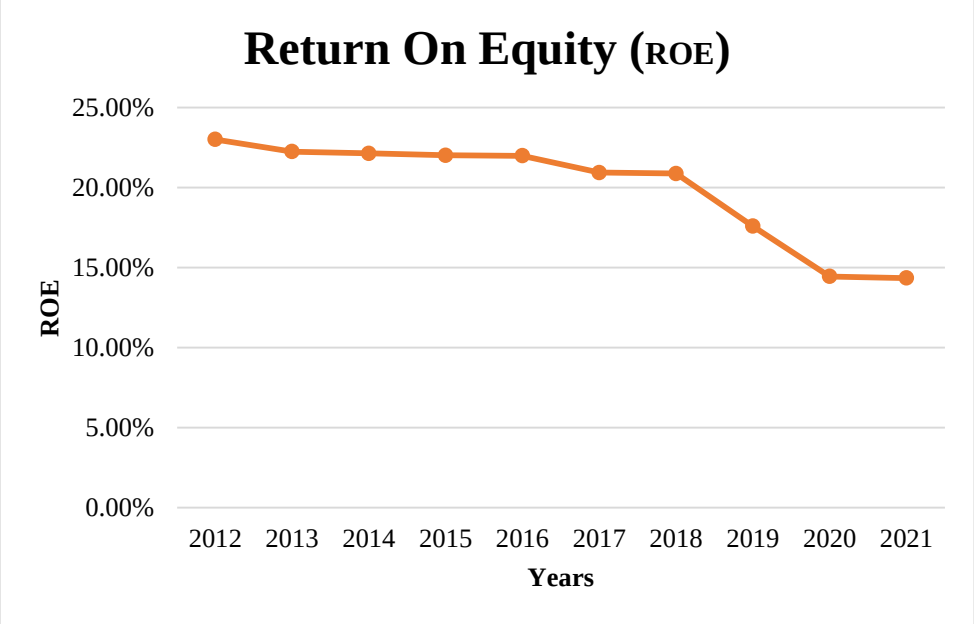

Figure 4.1: Trend Analysis on return on ROE Equity

Source: Research Data (2023)

4.3.2 Trend Analysis on Interest Rate

Figure 4.2 presents the trend analysis on the interest rate of commercial banks in South Sudan for a period of ten (10) years from 2012 to 2021.

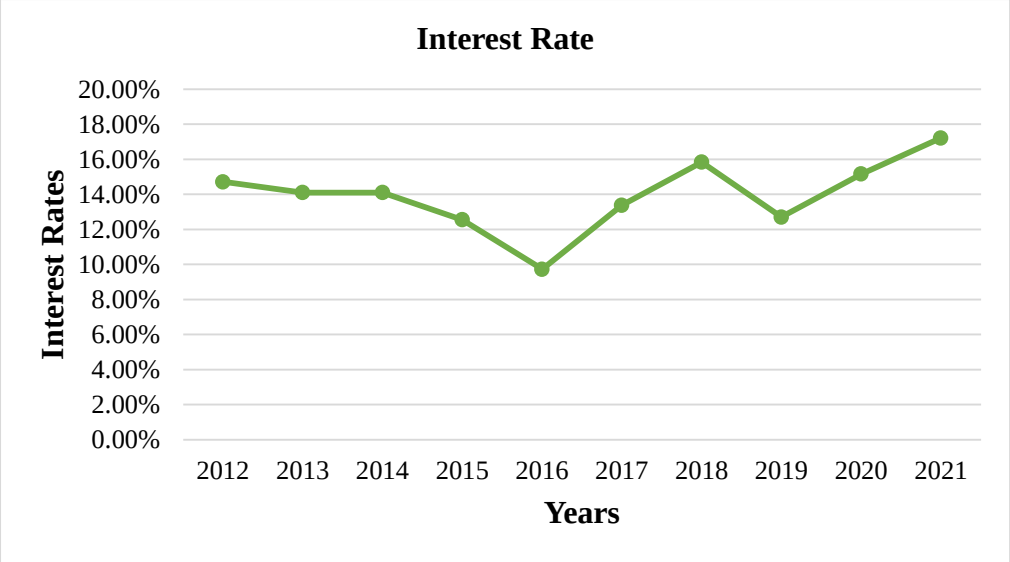

Figure 4.2: Trend Analysis on Interest rate

Source: Research Data (2023)

Figure 4.2 reveals that the interest rates trend over the ten years has not been consistent as it has experienced fluctuations; the highest interest rate was noted in 2018 at 15.83% while the lowest was in 2016 at 9.725.

4.3.3 Trend Analysis on Inflation Rate

Figure 4.3 presents the trend analysis on the inflation rate of commercial banks in South Sudan for a period of ten (10) years from 2012 to 2021."

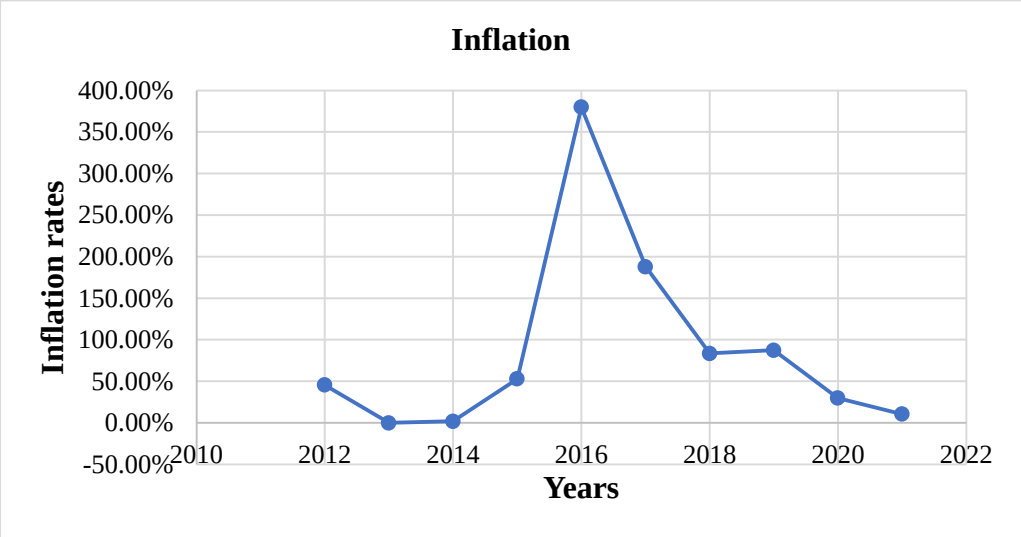

Figure 4.3: Inflation Rate

Source: Research Data (2023)

Figure 4.3 shows that the inflation rates over the ten years have experienced two contrary phases, between 2013 and 2016 the rates were increasing but since then to 2022 there has been a decrease. The highest inflation rate during the period was noted in 2016 when it hit 380%. There is an indication that the South Sudan economy was facing hard economic times in 2016 and a sharp increase in inflation rate from 52.8% the previous year to 380%.

4.3.4 Trend Analysis on Exchange Rate

Figure 4.4 presents the trend analysis on the exchange rate of commercial banks in South Sudan for a period of ten (10) years from 2012 to 2021.

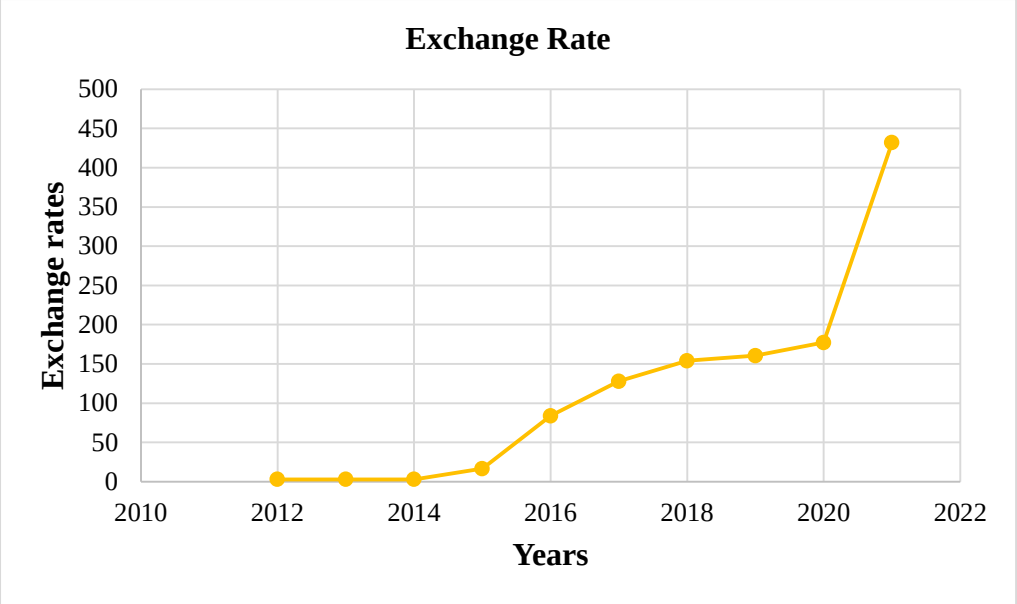

Figure 4.4: Exchange Rate

Source: Research Data (2023)

Figure 4.4 shows that Exchange rate over the ten years has experienced three phases, between 2012 and 2014 the rates were constant; between 2015 to 2020 there was a steady rise in exchange rate and between 2020 to 2021it experienced a sharp spike from 177.28% to 432.05%. There is an indication that the South Sudanese pound became very weak between the year 2020 to 2021 from 177.28% to 432.05%.

4.3.5 Trend Analysis on GDP Growth

Figure 4.5 presents the trend analysis on the GDP growth rate of commercial banks in South Sudan for a period of ten (10) years from 2012 to 2021.

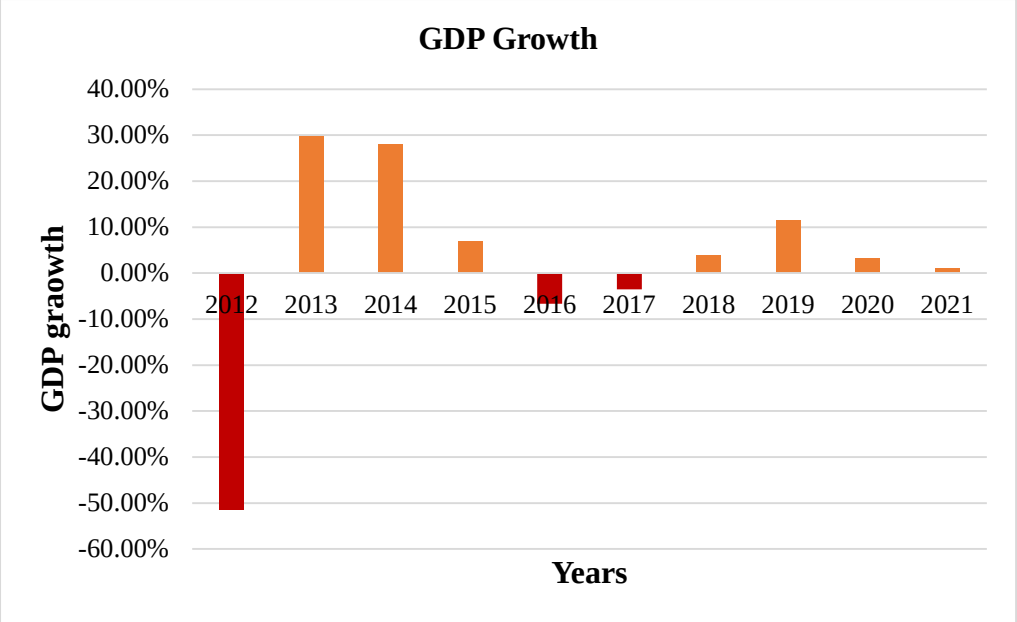

Figure 4.5: GDP Growth Rate

Source: Research Data (2023)

From figure 4.5 it can be observed that the GDP growth in the 10 years period has experienced negative growth thrice namely 2012, 2016, and 2017, with 2012 being the highest negative growth at -51.33%. However, positive growth has been observed in the other years, with 2013 registering the highest positive growth at 29.8% followed closely by 2014 at 27.97%.

4.4 Correlation Analysis

Correlation analysis between dependent and independent variables that is between macro- economic variables and financial performance as shown in Table 4.4.

Table 4.4: Correlation Results

	ROE	Interest Rate	Inflation	Exchange Rate	GDP
ROE	1.00				
Interest Rate	0.05	1.00			
Inflation	0.05	-0.76	1.00		
Exchange Rate	0.62	0.52	-0.06	1.00	
GDP	0.45	0.08	-0.24	0.17	1.00

Source: Research Data (2023)

After running correlation test among the five variables, it was noted that there is positive relationship between interest rate between Interest rate and financial performance measured using ROE and the relationship between financial performance and Interest Rate is strong with a p-value of 0.569.The findings agree with those of Wambari (2017) and Owusu (2017) who found that interest rate had negative effect on the financial performance of commercial banks in Kenya and South Sudan respectively.

On the relationship between GDP and financial performance, there is a strong relationship between GDP and financial performance with a P- value of 0.107. The findings agree with those of Nyangor (2020) and Zhen Shi and Yung-hu Chiu (2021) who found out that GDP have a positive effect on financial performance of commercial banks in South Sudan and in China respectively. Regarding the relationship between inflation rate and financial success, there is a weak relationship with a P-value of 0.046. The findings agree with those of Macharia (2013) and Kwakwa (2018) who found out that Inflation rate have a negative significant

influence on financial performance of commercial banks in Kenya and Ghana respectively.

On the relationship between Exchange rate and financial performance there is a positive relationship between exchange rate and financial performance of commercial banks with a P-value of 0.079. The finding does not agree with those of Munyok (2016) and Hossin (2020) who found out that the relationship between exchange rate and financial performance is negative. On correlation between exchange rate and ROE at 0.62. This indicates that an increase in one variable causes an increase on the other variable, an increase in ROE translates to an increase in the exchange rate. This can be explained to mean that there is a strong correlation between exchange rate and ROE in the South Sudan economy.

The strongest negative correlation was noted between interest rate and inflation at -0.76, this is an indication that the variables change in different orientation. Meaning that an increase in interest rate causes a decrease in inflation in South Sudan dataset. The weakest correlation was noted between ROE and inflation as well as ROE and interest rates at 0.05, this is indication that inflation and inflation have very little influence on ROE of the banks in Southern Sudan. Variables with negative correlation included inflation and interest rates, inflation and exchange rates, and inflation and GDP, this is an indicator that inflation negatively impacts GDP, interest rates, and exchange rates. The study findings agrees with those of Munyo (2016) and Hossin (2020) who found out that Variables with negative correlation included inflation and interest rates, inflation and exchange rates, and inflation and GDP, this is an indicator that inflation negatively impacts GDP, interest rates, and exchange rates.

4.5 Diagnostic Tests

These are test carried out prior to inferential analysis with an aim of ensuring that the research data set is sufficient for further investigations.

4.5.1 Test for Multicollinearity

The test is carried out to determine how strongly a pair of variables in a study is correlated. The test for correlation is presented in Table 4.3

Table 4.3 Correlation Matrix

	CBBR	Money Supply	Inflation	Exchange rates
ROE	1.0000			
Interest rate	0.1055	1.0000		
	0.1369			
Inflation	0.0283	0.0141	1.0000	
	0.6910	0.8429		
Exchange rates	-0.0889	-0.0231	0.0080	1.0000
GDP	0.2106	0.7452	0.9109	

*. Correlation is significant at the 0.05 level (2-tailed).

Source: (Research at 0.05)

Table4.3 Indicated that the correlation between ROE and Money supply is found to be non-significant with r of 0.1055, p- value = 0.1369. Similarly, Inflation and ROE were non- significantly correlated depicted by r of 0.0283, p- value= 0.6910. Exchange rate and ROE was also found to have an insignificant correlation with as indicated by a p-value of 0.2106. Inflation and supply of money were also had a non-significant association as seen from the p value of 0.9429. The correlation between exchange

rates and inflation was statistically non-significant; P value= 0.9109. Notable, the statistics presented in Table 4.3 showed that the data set doesn't bear the problem of multicollinearity. This is in line with Greene (2008) who asserts that a matchup of variable with a correlation number of 0.8 or - 0.8 (that is, r squared of 64% or more), indicates a rigorous setback of multicollinearity. Based on this, there exist no problem of multicollinearity among the data.

	Kolmogorov- Smirnov			**Shapiro-Wilk**	
	Statistic	**df**	**sig**	**Statistic**	**dfsig**
Financial Performance.	0.316	40	0.004	0.546	40
Interest rate	0.124	40	0.300	0.845	40
GDP	0.276	40	0.132	0.847	40

4.5.2 Normality Test

Normality test was undertaken using Shapiro -Wilk test. The results for normality test are as shown in Table 4.5.

Table 4.5 Test of Normality test Results

Inflation rate	0.245	40	0.163	0.765	40
Exchange rate	0.219	40	0.188	0.769	40

Source: Research Data (2023)

The results from Table 4.5demonstrates that the Shapiro-Wilk test's p values were higher than 0.05, indicating that the null hypothesis that the data are normally distributed was not rejected. Not rejecting the null hypothesis indicates that population in which the data was collected was normally distributed for all the variables in the study. Although the data for GDP is not normally distribute it does not affect the analysis.

4.5.3 Heteroscedasticity Test

Heteroscedasticity was tested using Breusch- Pagan test and the results are as shown in Table 4.7.

H0: The data is homoscedastic

H1: The data is heteroscedastic

The rule of the study is that p-value of less than 0.05, H0 is rejected.

Table 4.7: Heteroscedasticity Test Results

Test Statistic	Degree of Freedom	Sig.
5.352	8	0.537

Source: Research Data (2023)

Heteroscedasticity of data is usually done due to the presence of outlier which means that observations are either large or small in relation to other observations that are present in the data sample. According to the test's research findings which are presented in Table 4.7, the test statistics is 5.352 with a p-value of 0.537. The null hypothesis was not rejected because the p- value was greater than 0.05 and it was concluded that the obtained data did not exhibit heteroscedasticity, satisfying the regression assumption.

4.6 Regression Analysis

A regression analysis was done to determine the relationship between interest rate, inflation, exchange rate and GDP and financial performance measured by ROE and Table 4.9 summarizes the findings.

Table 4.9 First Lag

Equation	Parms	RMSE	R-sq	chi2	P>chi2
ROE	6	0.0046	0.9946	1479.331	0.0000
Interest Rate	6	0.0231	0.7127	19.84431	0.0013
Inflation	6	1.7130	0.4726	7.16753	0.2085
Exchange rate	6	0.3751	0.9774	345.7652	0.0000
GDP	6	0.0851	0.8186	36.09388	0.0000

Source: Research Data (2023)

Table 4.10 Second Lag

	Coefficient	Std.	Error	Z	p>/z/	95% Conf. Interval
ROE	-. 7160162	.278461	-2.57	0.010	-1.26179	-.1702428
Interest	.7512486	.2564767	2.93	0.003	.2485634	1.253934

Rate						
Inflation	.0224014	.0046612	4.81	0.000	.0132657	.0315371
Exchange Rate	-.0737376	.0082857	-8.90	0.000	-.0599772	-.0574981
GDP	-.0087016	.0043321	2.01	0.045	.0002108	.0171924
Cons	.2724424	.03142	8.65	0.000	.2107388	.334146

Source: Research Data (2023)

The resulting regression model that can be used to explain the ROE of banks in South Sudan economy was:

ROE = 0.2724 + 0.7512 (InterestRate) + 0.0224 (Inflation Rate) - 0.0737 (ExchangeRate) + 0.0087 (GDP)

After running the first lag, the vector autoregression reported that inflation was not statistically significant since the p-value was greater than the alpha value of 0.05. The second lag reported that all the variables were statistically significant at a confidence level of .05. The p-value of Interest Rate was .003 which is less than the alpha value of .05. Hence, the null hypothesis that the interest rate has no significant effect on financial performance of commercial banks in South Sudan was rejected and the study concluded that Interest Rate has significant effect on financial performance of commercial banks in South Sudan. Moreover, p-value of GDP was .045 which is less than the alpha value of .05. Thus, the null hypothesis that the GDP has no significant effect on financial performance of commercial banks in South Sudan was rejected and the study concluded that Gross Domestic Product has significant effect on financial performance of commercial banks in South Sudan. The p-value of Inflation Rate was .0000 which is less than the alpha value of .05. Hence the null hypothesis that the

inflation rate has no significant effect on financial performance of commercial banks in South Sudan was rejected and the study concluded that Inflation Rate has significant effect on financial performance of commercial banks in South Sudan. Lastly, the p-value of Exchange Rate was .003 which is less than the alpha value of .05. Therefore, the null hypothesis that the exchange rate has no significant effect on financial performance of commercial banks in South Sudan was rejected and the study concluded that Exchange Rate has significant effect on financial performance of commercial banks in South Sudan. The resulting regression model that can be used to explain the ROE of banks in South Sudan economy was:

ROE = 0.2724 + 0.7512 (Interest Rate) + 0.0224 (Inflation Rate) - 0.0737 (Exchange Rate) + 0.0087 (GDP)

This regression model can be explained to mean that a single unit of ROE is influenced by 0.7512 units of Interest Rate, 0.0224 units of Inflation, - 0.0737 units of Exchange Rate, and 0.0087 units of GDP. The model can be used to predict the impact of interest rate, inflation, exchange rate, and GDP on ROE of the banks of South Sudan. The purpose of this research study was to the investigate the influence of macroeconomic factors that includes Interest Rate, Inflation Rate, Exchange Rate and GDP growth on the financial performance of South Sudan's banks by evaluating the financial performance using ROE. Therefore, using the regression model it can be observed that the macroeconomic factors do affect the ROE of South Sudan's banks with interest rate having the greatest effect on the financial performance. It was noted that Interest Rate, Inflation Rate, and GDP growth had a positive impact on the ROE of the South Sudan's banks. This means that an increase in Interest Rate, Inflation Rate, and GDP would translate to higher ROE for the banks. However, Exchange Rate was observed to have a negative influence on the ROE. This can be explained to

mean that an increase in Exchange Rate has a significant impact of reducing the ROE of South Sudan's banks.

After running the vector Autoregression using Stata, it was observed that the statistical tool considered 2 lags which tend to utilize the sample for dataset starting 2014 to 2021. This translates to 8 observations in the dataset. After running the first lag, the vector autoregression reported that inflation was not statistically significant since the p-value was greater than the alpha value of 0.05. The second lag reported that all the variables were statistically significant at a confidence level of .05.

The p-value of Interest Rate was .003 which is less than the alpha value of .05. Hence, the null hypothesis that the interest rate has no significant effect on financial performance of commercial banks in South Sudan was rejected and the study concluded that Interest Rate has significant effect on financial performance of commercial banks in South Sudan. Moreover, p-value of GDP was .045 which is less than the alpha value of .05. The findings agree with those of Wambari (2017) and Owusu (2017) who found that interest rate had negative effect on the financial performance of commercial banks in Kenya and South Sudan respectively.

Thus, the null hypothesis that the GDP has no significant effect on financial performance of commercial banks in South Sudan was rejected and the study concluded that Gross Domestic Product has significant effect on financial performance of commercial banks in South Sudan. The findings agree with those of Nyangor (2020) and Zhen Shi and Yung-hu Chiu (2021) who found out that GDP have a positive effect on financial performance of commercial banks in South Sudan and in China respectively.

The p-value of Inflation Rate was .0000 which is less than the alpha value of .05. Hence, the null hypothesis that the inflation rate has no significant effect on financial performance of commercial banks in South Sudan was rejected and the study Inflation Rate has significant effect on financial performance of commercial banks in South Sudan. The findings agree with those of Ajayi and Atanda (2017) and Macharia (2013) who found out that Inflation have a negative effect on financial performance of commercial banks in Nigeria and in Kenya respectively.

Lastly, the p-value of Exchange Rate was .003 which is less than the alpha value of .05. The findings agree with those of Macharia (2013) and Kwakwa (2018) who found out that Inflation rate have a negative significant influence on financial performance of commercial banks in Kenya and Ghana respectively. Therefore, the null hypothesis that the exchange rate has no significant effect on financial performance of commercial banks in South Sudan was rejected and the study concluded that Exchange Rate has significant effect on financial performance of commercial banks in South Sudan. The finding does not agree with those of Munyok (2016) and Hossin (2020) who found out the relationship between exchange rate and financial performance is negative.

This regression model can be explained to mean that a single unit of ROE is influenced by 0.7512 units of Interest Rate, 0.0224 units of Inflation, - 0.0737 units of Exchange Rate, and 0.0087 units of GDP. The model can be used to predict the impact of interest rate, inflation, exchange rate, and GDP on ROE of the banks of South Sudan. The purpose of this research study was to the investigate the influence of macroeconomic factors that includes Interest Rate, Inflation Rate, Exchange Rate, and GDP growth on the financial performance of South Sudan’s banks by evaluating the financial performance using ROE. Therefore, using the regression model it can be

observed that the macroeconomic factors do affect the ROE of South Sudan's banks with interest rate having the greatest effect on the financial performance. It was noted that Interest Rate, Inflation Rate, and GDP growth had a positive impact on the ROE of the South Sudan's banks. This means that an increase in Interest Rate, Inflation Rate, and GDP would translate to higher ROE for the banks. However, Exchange Rate was observed to have a negative influence on the ROE. This can be explained to mean that an increase in Exchange Rate has a significant impact of reducing the ROE of South Sudan's banks.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The chapter is set out to provide a summary of the analyzed findings based on the specific objectives. The conclusions are also provided as informed by the research findings that were tested and recommendation for further studies.

5.2 Summary of Findings

In the first lag, the vector Autoregression reported that inflation was not statistically significant, and the second lag reported that all the variables were statistically significant.

5.2.1 Effect of Interest Rate on Financial Performance of Commercial Banks in South Sudan

The study's first goal was to determine how interest rates affected South Sudan's commercial banks' financial performance. Results indicated that if all other variables remained constant and the interest rate rose by one-unit, South Sudan's commercial banks would experience a decline in their financial performance. Results further showed that the interest rate was statistically significant on financial performance of commercial banks in South Sudan. Hence, the null hypothesis the null hypothesis that the interest rate has no significant effect on financial performance of commercial banks in South Sudan was rejected and the study concluded that Interest Rate has significant effect on financial performance of commercial banks in South Sudan.

5.2.2 Effect of GDP on Financial Performance of Commercial Banks in South Sudan

The study's second objective was to determine how South Sudan's commercial banks' financial performance was impacted by GDP. The findings demonstrated that the financial performance of commercial banks would improve if all other variables were held constant and GDP increased by one. Further, results showed that GDP has a positive effect on financial performance of commercial banks. This shows that GDP has significant effect on financial performance of commercial banks in South Sudan. The null hypothesis that the GDP has no significant effect on financial performance of commercial banks in South Sudan was rejected and the study concluded that Gross Domestic Product has significant effect on financial performance of commercial banks in South Sudan.

5.2.3 Effect of Inflation on Financial Performance of Commercial Banks in South Sudan

The third objective of the study was to investigate how South Sudan's commercial banks' financial performance is impacted by inflation. Results indicated that if all other variables remained constant and the rate of inflation rose by one-unit, commercial banks would see an improvement in their financial performance. The null hypothesis that the inflation rate has no significant effect on financial performance of commercial banks in South Sudan was rejected and the study concluded that Inflation Rate has significant effect on financial performance of commercial banks in South Sudan.

5.2.4 Effect of Exchange Rate on Financial Performance of Commercial Banks in South Sudan

The fourth objective was to examine the impact of exchange rates on the financial performance of South Sudan's commercial banks. The findings suggested that the financial performance of commercial banks would decline if all other variables were held constant and the exchange rate rose by one unit. Results further showed that the exchange rate has a statistically significant negative effect on financial performance of Commercial banks. Exchange Rate therefore has significant effect on financial performance of commercial banks in South Sudan. The null hypothesis that the exchange rate has no significant effect on financial performance of commercial banks in South Sudan was rejected and the study that Exchange Rate has significant effect on financial performance of commercial banks in South Sudan.

5.3 Conclusion

Results that the interest rate was statistically significant on financial performance of commercial banks in South Sudan. The study concluded that the interest rate affect the financial performance of commercial banks because they affect the total returns of commercial banks. This study discovered that Interest rate rates have a significant impact on the financial performance of commercial banks. Results shows that GDP has significant effect on financial performance of commercial banks in South Sudan. The study concluded that GDP affect the financial performance of commercial banks because they affect the total returns of commercial banks. This study discovered that GDP rates have a significant impact on the financial performance of commercial banks.

The study found that the inflation rate has a negative impact on the financial performance of commercial banks and came to the conclusion that when the inflation

rate is high, commercial banks' financial health will improve. Therefore, a rise in inflation will have a favorable impact on the financial health of commercial banks. Exchange Rate therefore has significant effect on financial performance of commercial banks in South Sudan. The study concluded that the exchange rates affect the financial performance of commercial banks because they affect the total returns of commercial banks. This study discovered that exchange rate rates have a significant impact on the financial performance of commercial banks.

5.4 Recommendations

Results that the interest rate was statistically significant on financial performance of commercial banks in South Sudan. The study found that South Sudan's commercial banks perform poorly financially as a result of high interest rates. Based on this finding, the study suggests that the government should use macroeconomic regulators to control interest rates for commercial banks based on changes in inflation rates. Doing this will help to ensure that commercial banks can effectively and sustainably provide financial intermediation. As a policy recommendation, the management of commercial banks should set interest rate level for both lending and deposits which is competitive so as to attract more customers and lead to improved performance. Commercial banks should design dynamic interest rate policies which would lead to growth by attracting many customers.

Results shows that GDP has significant effect on financial performance of commercial banks in South Sudan. The study concluded that GDP has a beneficial effect on the financial performance of South Sudan's commercial banks. In light of this conclusion, the study suggest that the government should guarantee that the business environment is favourable to encouraging investment in commercial banks as they have a beneficial effect on GDP through job creation. As a policy

recommendation, the supervisory body of macroeconomic variable like GDP should ensure viable environment for micro banking. They should regulate the variable in such a way that they lead the economy towards the growth and favour of commercial banks. This will favour the financial sector by facilitating better the financial stability thus increasing economic growth.

The study found that the inflation rate has a negative impact on the financial performance of commercial banks. In reference to this finding, the study recommends that commercial bank management committees regularly monitor the inflation rate in order to alter their lending products and services in line with the inflation rate. As a policy recommendation, the study recommends that the management of commercial banks should diversify its activities like availing loans at different rate of percentage depending on the amount taken to take advantage when inflation rate is favored.

Exchange Rate therefore has significant effect on financial performance of commercial banks in South Sudan. The study also found that the exchange rate has a detrimental impact on the financial performance of South Sudanese commercial banks. Based on this finding, the study recommends that the government regulate exchange rates in such a way that they lead to economic growth and in favour of commercial banks, thereby facilitating financial stability and thus increasing economic growth. As a policy recommendation, the management of commercial banks should use rates of exchange as a conditioning variable for counter-inflationary policies. The management should use the exchange rate information positively as it was found to convey information on the fundamentals in the economy. Commercial banks should save huge foreign exchange reserves to enhance its performance.

5.5 Recommendations for Further Research

In this study, four macroeconomic variables affecting commercial banks performance were considered, these are interest rate, GDP, inflation rate and exchange rate. The measure of financial performance was based on return on equity (POE). This study encourages further research by identifying other macroeconomic elements that may have a substantial impact on financial performance which will be useful in assisting policy formation in commercial banks. The study also proposes further research using more time series data such as monthly data because this study only used annual data. This could help to increase the significance of the results.

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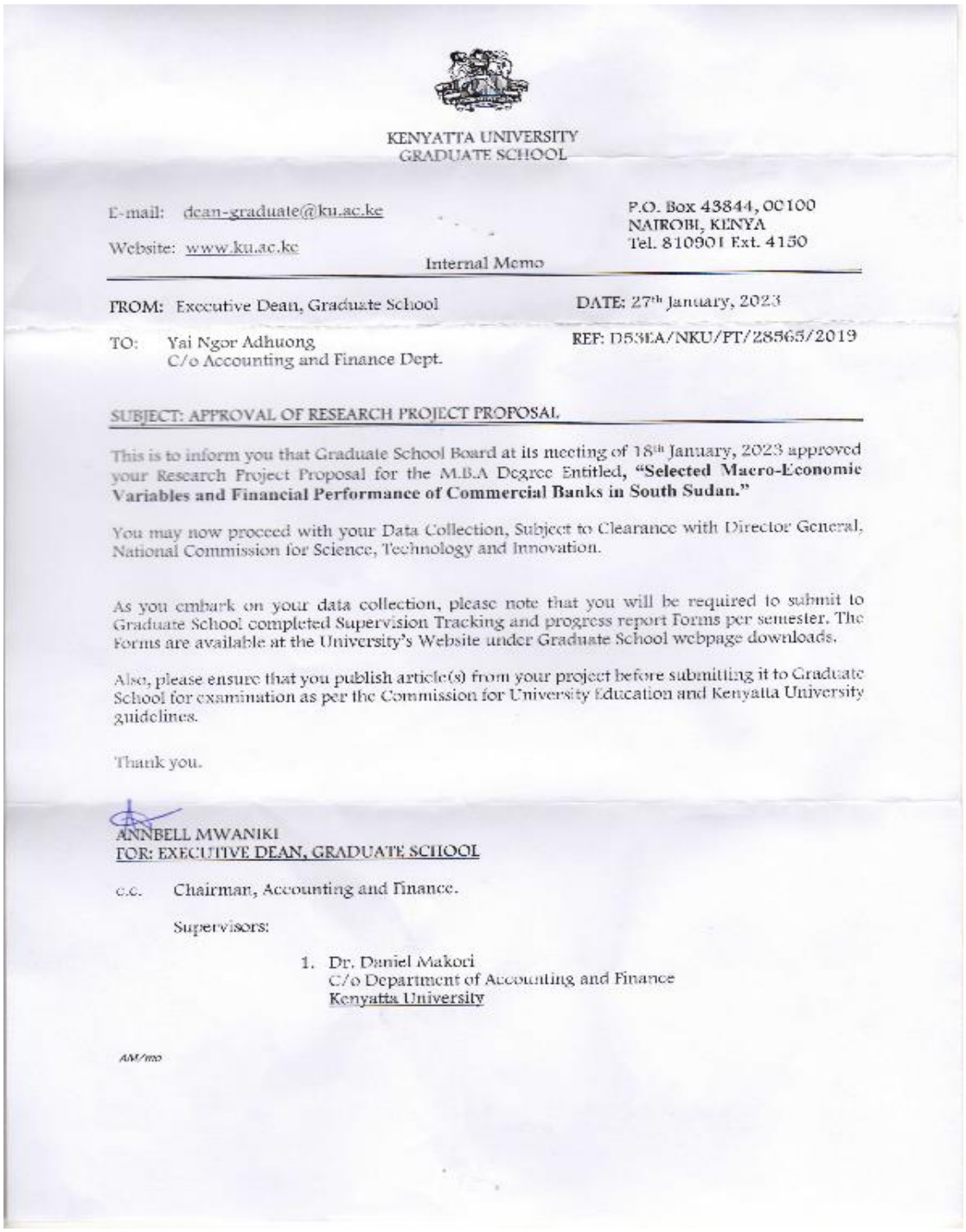
APPENDICES

Appendix I: Approval letter from KU



KENYATTA UNIVERSITY
GRADUATE SCHOOL

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

P.O. Box 43844, 00100
NAIROBI, KENYA
Tel. 810901 Ext. 4150

Internal Memo

FROM: Executive Dean, Graduate School

DATE: 27th January, 2023

TO: Yai Ngor Adhuong
C/o Accounting and Finance Dept.

REF: D53EA/NKU/PT/28565/2019

SUBJECT: APPROVAL OF RESEARCH PROJECT PROPOSAL

This is to inform you that Graduate School Board at its meeting of 18th January, 2023 approved your Research Project Proposal for the M.B.A Degree Entitled, **"Selected Macro-Economic Variables and Financial Performance of Commercial Banks in South Sudan."**

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

As you embark on your data collection, please note that you will be required to submit to Graduate School completed Supervision Tracking and progress report Forms per semester. The Forms are available at the University's Website under Graduate School webpage downloads.

Also, please ensure that you publish article(s) from your project before submitting it to Graduate School for examination as per the Commission for University Education and Kenyatta University guidelines.

Thank you.

ANNBELL MWANIKI
FOR: EXECUTIVE DEAN, GRADUATE SCHOOL

c.c. Chairman, Accounting and Finance.

Supervisors:

1. Dr. Daniel Makori
C/o Department of Accounting and Finance
Kenyatta University

AM/mo

Appendix II: Research Authorization Letter

KENYATTA UNIVERSITY
GRADUATE SCHOOL

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

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

Our Ref: D53EA/NKU/PT/28565/2019 DATE: 27th January, 2023

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

Dear Sir/Madam,

RE: RESEARCH AUTHORIZATION FOR YAI NGOR ADHUONG– REG. NO. D53EA/NKU/PT/28565/2019

I write to introduce Yai Ngor Adhuong who is a Postgraduate Student of this University. The student is registered for M.B.A degree programme in the Department of Accounting and Finance.

Yai intends to conduct research for a M.B.A Project Proposal entitled, **"Selected Macro-Economic Variables and Financial Performance of Commercial Banks in South Sudan."**

Any assistance given will be highly appreciated.

Yours faithfully,

PROF. ELISHIBA KIMANI
EXECUTIVE DEAN, GRADUATE SCHOOL

AM/mo

Appendix III: Research Permit from NACOSTI

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: **439798**

Date of Issue: **23/February/2023**

RESEARCH LICENSE

This is to Certify that Mr.. YAI NGOR ADHUONG of Kenyatta University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Nairobi, Nakuru on the topic: SELECTED MACRO-ECONOMIC VARIABLES AND FINANCIAL PERFORMANCE OF COMMERCIAL BANKS IN SOUTH SUDAN for the period ending : 23/February/2024.

License No: **NACOSTI/P/23/23788**

439798

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Verification QR Code

NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.

See overleaf for conditions

Appendix IV: List of Commercial Banks in South Sudan

1. African National Bank
2. Afriland First Bank South Sudan
3. Agricultural Bank of South Sudan.
4. Alpha Commercial Bank
5. Buffalo Commercial Bank
6. Charter One Bank South Sudan
7. Commercial Bank of Ethiopia (South Sudan)
8. Cooperative Bank of South Sudan
9. Ebony National Bank
10. Eco-bank South Sudan
11. Eden Commercial Bank
12. Equity Bank South Sudan Limited
13. International Commercial Bank
14. Ivory Bank
15. KCB Bank South Sudan Limited
16. Liberty Commercial Bank
17. Mountain Trade and Development Bank
18. National Credit Bank
19. Nile Commercial Bank
20. Opportunity Bank South Sudan
21. People's Bank Plc
22. Phoenix Commercial Bank
23. Qatar National Bank
24. Regent African Bank

25. Royal express Bank

26. South Sudan Commercial Bank

27. Southern Rock Bank

28. St Theresa Rural Development Bank

29. Stanbic Bank South Sudan Limited.

Appendix V: Data Collection Sheet

Year	**Net Income**	**Total Equity**	**Central Bank Rate**	**Consumer Price Index**	**Exchange Rate**	**GDP Rate**
2012						
2013						
2014						
2015						
2016						
2017						
2018						
2019						
2020						
2021						

Appendix VI: Original SPSS Output

```
S. Sudan  Friday May 26 00:55:26 2023   Page 1

                                                          ___  ____  ____  ____  ____(R)
                                                         /__    /   ____/   /   ____/
                                                        ___/   /   /___/   /   /___/
                                                          Statistics/Data Analysis

                                                            User: Ngor
                                                         Project: Masters project

                                       (R)
  /   /       /  /      /
    /   /  /    /  /  /   /   14.2   Copyright 1985-2015 StataCorp LLC
  Statistics/Data Analysis           StataCorp
                                     4905 Lakeway Drive
      Special Edition                College Station, Texas 77845 USA
                                     800-STATA-PC        http://www.stata.com
                                     979-696-4600        stata@stata.com
                                     979-696-4601 (fax)

Single-user Stata perpetual license:
       Serial number:  10699393
         Licensed to:  Andrey

Notes:
      1.  Unicode is supported; see help unicode_advice.
      2.  Maximum number of variables is set to 5000; see help set_maxvar.
      3.  New update available; type -update all-

1 . use "F:\Outsouced\South Sudan Microeconomic factors.dta", clear

2 . use "F:\Outsouced\South Sudan Microeconomic factors.dta", clear

3 . do "F:\Outsouced\SouthSudan.dta"

4 . <stata_dta><header><release>118</release><byteorder>LSF</byteorder><K></K><N></N><label></label>
> <timestamp>24 Mar 2023 09:12</timestamp></header><map>□Fa□□     □□Xg□□</map><variable_types>
< is not a valid command name
r(199);

end of do-file

r(199);

5 . use "F:\Outsouced\SouthSudan.dta", clear

6 . use "F:\Outsouced\South Sudan Microeconomic factors.dta", clear

7 . tsset Year
        time variable:  Year, 2012 to 2021
                delta:  1 year

8 . var ROE Interest_Rate Inflation Exchange_Rate GDP, lags(1/2)

Vector autoregression

Sample:  2014 - 2021                          Number of obs     =         8
Log likelihood =   1393.222                   AIC               = -338.3055
FPE            =          .                   HQIC              = -340.9845
Det(Sigma_ml)  =   3.7e-158                   SBIC              = -337.9083

Equation           Parms      RMSE     R-sq      chi2     P>chi2
----------------------------------------------------------------
ROE                  8           0   1.0000         .         .
Interest_Rate        8           0   1.0000         .         .
Inflation            8           0   1.0000         .         .
Exchange_Rate        8           0   1.0000         .         .
GDP                  8           0   1.0000         .         .
----------------------------------------------------------------
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```
                                                  ___  ____  ____  ____  ____(R)
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                                                ___/   /   /___/   /   /___/
                                                  Statistics/Data Analysis

                                                    User: Ngor
                                                 Project: Masters project

                                    (R)
  /     /     /  /    /
   /   /  /  /  /  /  /  14.2   Copyright 1985-2015 StataCorp LLC
  Statistics/Data Analysis      StataCorp
                                4905 Lakeway Drive
    Special Edition             College Station, Texas 77845 USA
                                800-STATA-PC        http://www.stata.com
                                979-696-4600        stata@stata.com
                                979-696-4601 (fax)

Single-user Stata perpetual license:
       Serial number:  10699393
         Licensed to:  Andrey


Notes:
      1.  Unicode is supported; see help unicode_advice.
      2.  Maximum number of variables is set to 5000; see help set_maxvar.
      3.  New update available; type -update all-

1 . use "F:\Outsouced\South Sudan Microeconomic factors.dta", clear

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3 . do "F:\Outsouced\SouthSudan.dta"

4 . <stata_dta><header><release>118</release><byteorder>LSF</byteorder><K></K><N></N><label></label>
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< is not a valid command name
r(199);

end of do-file

r(199);

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Vector autoregression

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Det(Sigma_ml)  =  3.7e-158                  SBIC              =  -337.9083

Equation           Parms      RMSE     R-sq      chi2     P>chi2
----------------------------------------------------------------
ROE                   8          0   1.0000         .         .
Interest_Rate         8          0   1.0000         .         .
Inflation             8          0   1.0000         .         .
Exchange_Rate         8          0   1.0000         .         .
GDP                   8          0   1.0000         .         .
----------------------------------------------------------------
```