EXCHANGE RATE DYNAMICS ON ECONOMIC GROWTH IN NIGERIA (1994-2024)

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CERTIFICATION

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DEDICATION

I dedicate this write up to Almighty God who is the giver of life.

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I want to begin by thanking the Almighty God for His unending mercy, grace, and faithfulness in my life. I'm grateful to the Holy Spirit for constantly guiding me every step of the way.

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

Tables

ABSTRACT

This study examines the impact of exchange rate dynamics on Nigeria's economic growth from 1994 to 2024, Attention was also on the roles of inflation and interest rates. Annual data on Economic growth (GDP), Exchange Rate (EXCR), Inflation (INF) and Interest Rate (INT) from the World Development Indicators were examined and the Autoregressive Distributed Lag (ARDL) approach was employed to analyse the data. The research investigates both short- and long-run relationships, supported by diagnostic tests to ensure robustness. The results shows in the short run that past values of exchange rate significantly influenced current GDP, Also in the long run, exchange rate levels were found to be statistically significant in explaining GDP movements. However, the positive relationship observed was relatively weak. , Interest rates exerted minimal long-run influence on GDP, while some short-run effects were observed. Inflation rate was found to have a significant long-run effect on GDP, but its influence is shaped by broader macroeconomic conditions and policy responses. It could therefore be concluded from the findings that exchange rate were found to have both short-run and long-run effects on GDP and its efficient management can impact significantly on the overall growth of the economy. The study recommends stabilising the exchange rate through a unified, market-reflective system and controlling inflation via structural reforms. By highlighting the asymmetric effects of inflation and the limited role of interest rates, the research offers valuable insights for policymakers seeking to foster a stable and growth-oriented Nigerian economy.

CHAPTER ONE

INTRODUCTION

1.1 Background to the study

Nigeria, as one of the largest economies in Africa (World Bank 2023), experiences a complex interplay between various macroeconomic variables. Among these, exchange rates play a crucial role in shaping the economic landscape. The dynamics of exchange rates in Nigeria have been influenced by multiple factors, including oil prices, foreign direct investment, inflation rates, and government policies. Nigeria is heavily reliant on oil exports, fluctuations in the exchange rate can have significant implications for the overall economic growth of the country.

Exchange rate is the rate at which one county's currency can be exchanged for another country's currency (Krugman, P. R., & Obstfeld, M. (2009)). Exchange rate is used to determine the value of various currencies in relation to each other and also important in determining trade and capital flow dynamics. According to Chichi and Casmir (2014), exchange rate plays an important role in international economic business because no country can remain in isolation due to natural resources endowment. Exchange rate fluctuations are now the bedrock for all economic activities globally, portraying exchange rate management as a major determinant of many countries economic policies (Todaro 2004). Exchange Rate is a significant macroeconomic variable for formulating economic policies and programs to help accelerate the achievement of set macroeconomic goals. In Nigeria these goals includes achieving price stability, BOP equilibrium, full employment, even distribution of income, economic growth and development

Exchange rates are constantly changing and are based on supply and demand in the foreign exchange market. Exchange rate is divided into two and they are fixed and floating exchange rate. Fixed exchange rate also referred to as pegged exchange rate is a type of exchange rate in which a country's currency is tied or pegged to another country's currency by monetary authorities in that country while floating exchange rate also referred to as flexible exchange rate is when a country's currency is determined by the forces of demand and supply without government intervention

Exchange rate fluctuations occur when foreign currencies undergo changes in value. Because each currency's value changes due to a variety of economic factors, any currency can be bought or sold for a different amount of another currency at any given time. A country's currency's exchange rate is typically determined by the strength or weakness of the underlying economy. Exchange rate fluctuations are caused by changes in the supply and demand of a given currency. When a specific currency is in high demand, its value relative to other currencies may rise while when it is not in demand, then its value will fall relative to others.

Exchange rate fluctuations play a significant role in influencing the economic growth of Nigeria, a country heavily reliant on international trade and foreign exchange earnings from crude oil. The relationship between exchange rate dynamics and economic growth in Nigeria is multifaceted, shaped by external shocks, domestic monetary policies, and the structure of the economy. A depreciation in the exchange rate can make exports cheaper and imports more expensive, potentially boosting domestic production and growth (Obstfeld & Rogoff, 1996). However, this mechanism assumes that the economy has a diverse production base, which Nigeria lacks due to its dependence on crude oil exports. Exchange rate volatility can deter foreign investment by increasing uncertainty and reducing the predictability of returns (Ghosh, A. R., Ostry, J. D., & Chamon, M. (2018))

Economic growth is an increase in the production of economic goods and services an economy. Economic growth is the increase in the amount of goods and services produced in an economy which is measured by positive changes in a country's gross domestic product (Okpara G. C. 2006). It is often measured as the rate of change in real GDP. It is the increase in aggregate production in an economy which is as a result of rise in national income. Economic growth can be defined as a process through which the productive capacity of a state is increased in due course of time consequently increasing national output and income (Anu, K.T., Oluwaloba, O. A., Francis, O.L, Anayo, V.E., Friday, C.N., & Isaac, A. 2022). In another view, Economic growth as the process whereby the real per capita income of a country increases over time usually annually at current prices. Economic growth can be measured in nominal or real terms. Nominal economic growth refers to the increase in a country's gross domestic product (GDP) measured using current market prices, without adjusting for inflation while Real economic growth, accounts for inflation by measuring GDP at constant prices, thereby reflecting the actual increase in the volume of goods and services produced. A country can be said to grow economically when there are Increases in capital goods, labor force, technology, and human capital. It is generally measured in terms of GDP and is an indicator of the economic health of a country.

One of the Macroeconomics variables that affects economic growth significantly is inflation. According to Hamilton (2001), inflation is widely described as an economic condition in which the growth of the money supply exceeds the production of goods and services within the economy. Examining the non-linear relationship between inflation and economic growth, Burdekin (2000) showed that the effects of inflation on growth reverses substantially as the inflation rate rises. He concluded that the threshold at which inflation first begins to negatively affect growth is around 8 per cent for industrial economies and 3 per cent or less for developing countries.

A crucial factor that often shapes the outcomes of exchange rate movements on economic performance is the interest rate. Interest rate plays a crucial role in the determination of the value of financial instruments and generally affects economic agent's decisions or behaviors on whether to consume, save and invest. It also affects the distribution of wealth between borrowers and lenders. Interest rates influence the prices of key financial assets such as stocks, bonds, and foreign currencies. For individuals, interest rates determine monthly payments on car loans and home mortgages. It also determines the income earned on savings account, term deposits and other forms of market instruments.

One common challenge plaguing Nigeria is the level of volatility often present in the financial system. Without a doubt, a robust financial system aids economic growth through the facilitation of savings and the channeling of funds from savers to investors. However, the challenges posed by the relatively high levels of instability in the system, especially with regard to sudden interest rate volatility, have the potential to adversely impact market efficiency (Istreffi & Mouabbi, 2017). Volatility creates inefficiencies in the financial system and consequently creates economic harm (Poterba, 2000). Di Giovanni and Levchenko (2006) emphasize that the adverse effects of volatility are even more pronounced in developing nations such as Nigeria when compared with developed nations.

For the reasons, several researchers have advocated placing legal restrictions on interest rates to guard against market failures and information frictions that could be triggered by volatility (Olasehinde-Williams & Özkan, 2022). On the other hand, it is also widely encouraged that interest rates should be left to the forces of demand and supply. It is claimed that the liberalization of the financial sector in this manner would improve economic growth (Ene, E. E., Atong, A. S., & Ene, J. C. 2015; Mehran & Laurens, 1997). For instance, Ghironi and Ozhan (2020) present interest rate uncertainty as a useful tool for reducing ineffective capital

inflows, as well as for modifying the structure of external accounts between marketable securities and foreign direct investment.

The instability of Nigeria's exchange rate system poses a severe challenge to achieving sustained economic growth and development. Exchange rate volatility introduces significant risks for businesses, discouraging both domestic and foreign investment. Despite CBN's interventions, the widening gap between the official and parallel exchange rates reflects deep structural inefficiencies. The multiplicity of exchange rates has created opportunities for arbitrage, fostering corruption and undermining investor confidence in the economy.

1.2 Statement of the problem

After the Second World War, exchange rate was fixed by the Bretton Woods system (Arratibel, O., Furceri, D., Martin, R., & Zdzienicka, A 2010). The international monetary fund (IMF) member set their exchange rate against the United States (U.S.) dollar and the dollar in turn was bound to gold in order to foster international trade and fund post war reconstruction. The fixed exchange rate system in Nigeria operated smoothly through the 1950s and countries gained steady increment in output and trade. Unfortunately, in the early 1960s due to slack U.S. macroeconomic policies, the fixed exchange rate system experienced a gold overhang (Cao, Z., El Ghoul, S., Guedhami, O., & Kwok, C. 2018). In 1971, with the dollar overvalued, the U.S. temporarily suspended the dollar's convertibility into gold and thus, the Bretton Woods system was ended.

Due to the collapse of the Bretton Woods fixed exchange rate system, countries are free to adopt their own exchange rate regimes (Aliyev, 2015) which means that countries are free to choose a floating exchange rate, fixed exchange rate or an intermediate rate regime.

In Nigeria, exchange rate witnessed a radical change from the fixed exchange rate system operated between 1960s and early 1980s (Arawomo & Dahunsi, 2017). During this period, Naira was relatively stable when compared to the US Dollar. Precisely, the exchange rate was fixed at less than one naira (between #0.71 and #0.89) to the dollar within that period (CBN Statistical Bulletin, 2015). However, with the introduction of the structural Adjustment Programme (SAP), the country moved from a peg regime to a flexible exchange rate regime where exchange rate is left completely to be determined by market forces but rather the prevailing system is the managed float where by monetary authorities intervene periodically in the foreign exchange market in order to attain some strategic objectives (Mordi, 2006).

The exchange rate drastically depreciated. Specifically, between 1985 and 1990s, the value of Naira to US Dollar depreciated from #1.20 to #5.20 to a dollar (CBN, Statistical Bulletin, 2015). 1996 to 2010, the value at which Naira exchanged to US Dollar depreciated from #18.61 to #138.05. The exchange rate further declines from #138.05 to a dollar in 2010 to #193.27 to a dollar in 2015. Presently, the naira exchange rate for #1500 to a dollar at the bank rate (CBN, Statistical Bulletin, 2025)

Exchange rate dynamics is now the core for all economic activities globally, portraying exchange rate management as a major determinant of many countries economic policies. Lately, there is much debate regarding the policies needed to maintain a stable exchange rate in Nigeria. Previous studies on the relationship between exchange rates and economic growth in Nigeria have yielded mixed results, with some identifying a positive relationship while others suggest negative impacts depending on the prevailing macroeconomic conditions (Afolabi, A. A., Adeoye, B. W., & Olayemi, K. O. 2022). These inconsistencies underscore the need for a comprehensive understanding of the mechanisms through which exchange rate movements affect economic performance in Nigeria.

This research seeks to examine the impact of exchange rate dynamics on Nigeria's economic growth, with a particular focus on aspects that have not been fully addressed in existing literature. While many studies have looked at the general relationship between exchange rates and growth, fewer have explored how exchange rate dynamics, sudden asymmetric shocks, and their combined interaction with key macroeconomic indicators such as inflation and interest rates shape the Nigerian economy over time.

Specifically, it aims to analyze the impact of exchange rate dynamics, inflation rate and interest rate on Economic Growth in Nigeria. By identifying the underlying factors contributing to exchange rate instability and its implications for the economy, this study provides valuable insights for policymakers and stakeholders in designing effective strategies to promote sustainable growth and macroeconomic stability in Nigeria.

1.3 Research question

1. What is the trend analysis of exchange rate and economic growth in Nigeria?
2. What is the relationship between exchange rate dynamics and economic growth in Nigeria?
3. What is the relationship between interest rate and economic growth in Nigeria?
4. What is the significance relationship between inflation rate and economic growth in Nigeria?

1.4 Objectives of the problem

The broad objective of the study is to examine the effect of exchange rate dynamics on economic growth in Nigeria between 1994-2024. While the specific objectives are to:

1. Examine the trend analysis of exchange rate and economic growth in Nigeria
2. Investigate how exchange rate dynamics affects economic growth in Nigeria

3. Analyze the relationship between interest rate and economic growth in Nigeria
4. Study how inflation significantly influence economic growth in Nigeria

1.5 Research hypothesis

Ho1: Exchange rate dynamics has no significant effect on Economic growth in Nigeria

Ho2: Interest rate has no significant effect on economic growth in Nigeria

Ho3: Inflation rate has no significant effect on economic growth in Nigeria

1.6 Study justification

This research intends to contribute to academic knowledge, provide practical guidance for policymakers, and assist businesses in adapting to Nigeria's evolving economic landscape, ultimately promoting sustainable economic growth in the country. The literature on this topic is very little, therefore this study aims to broaden the knowledge of researchers on how the interdependencies of exchange rates, inflation and interest rate affects economic growth of the Nigeria economy

The findings of this research have practical implications for policymakers. With Nigeria facing numerous economic challenges, including currency devaluation, inflation, and rising interest rates, a clearer understanding of these dynamics can help develop targeted economic policies and strategies that stabilize the economy and foster growth.

Also, this study will provide insights for businesses and investors, enabling them to navigate the complexities of the Nigerian economy more effectively. By understanding how exchange rate dynamics interact with inflation and interest rates to impact growth, they can make informed investment decisions and better manage risks.

1.7 Scope of the study

This research work is designed to cover the period 1994-2024. A period of thirty years. The research will be carried out geographically in Nigeria. The research aims to study the effect of exchange rate fluctuations on economic growth in Nigeria. The type of data used in this study is secondary data.

CHAPTER 2

LITERATURE REVIEW

This chapter reviews existing literature on conceptual, theoretical and empirical literature relevant to the study.

2.1 Conceptual literature

2.1.1 Concept of Economic growth

Economic growth is an increase in the capacity of an economy to produce goods and services, compared from one period of time to another. It is the rate of expansion of the National Income or total volume of production of goods and services (Femi Longe, 2011). Economic growth is an increase in the capacity of an economy to produce goods and services at a period of time Todaro (2007). It can be measured in nominal or real terms. Economic growth is measured as a percentage change in the Gross Domestic Product or Gross National Product (Dwivedi, 2004). The steady rise in economic activity within a country or economy over a specified period is the general concept of economic growth. An increase in these activities will lead to a rise in resource employment in the economy. The rise in economic activity could be attributed to an increase in the output or production capacity of individuals, companies, and industries in the economy. (Ngutsav and Ijirshar, 2018; Haller, 2018).

Economic growth can be defined both quantitatively and qualitatively. Quantitatively, it is often described as the percentage increase in real output over a given period (Barro & Sala-i-Martin, 2004). Qualitatively, it is concerned with the nature of that growth whether it is inclusive, sustainable, and accompanied by structural changes that enhance long-term development (Sen, 1999). In practice, growth is measured through

macroeconomic indicators such as real GDP growth rate, per capita income, sectoral output, and productivity indices.

It is important to distinguish economic growth from economic development. Growth focuses on output expansion, whereas development encompasses broader improvements in social, institutional, and environmental dimensions. However, the two concepts are interconnected. Sustained economic growth often provides the resources necessary for development initiatives (Todaro & Smith, 2020).

2.1.2 Concept of Exchange Rate

Exchange rate is the price of one country's currency in relation to another country currency. It is the required amount of unit of a currency that can buy another currency. (Kandil 2004) says that exchange rate fluctuations influence domestic prices through their effect on aggregate supply and demand. Exchange rate is the rate at which a currency purchases another (Jhingan 2005). It is the reflection of the strength of a currency when measured against another country's currency.

An exchange rate can be nominal or real. The nominal exchange rate is the number of units of domestic currency required to purchase one unit of foreign currency, typically expressed in bilateral terms such as Naira per US Dollar. The real exchange rate adjusts the nominal rate for relative price levels between countries, thereby reflecting the actual purchasing power of a currency (Krugman & Obstfeld, 2018). Exchange rates are also categorised into fixed (or pegged) and floating regimes. In a fixed exchange rate system, the government or central bank commits to maintaining its currency value at a specified parity. In contrast, under a floating exchange rate, market

forces of supply and demand determine the currency's value, though central banks may still intervene to smooth excessive volatility (IMF, 2023).

The evolution of exchange of the exchange rate in Nigeria up to its present state was influence by a number of factors such as interstate, market expectation and purchasing power parity. Before the establishment of the central bank of Nigeria (CBN) IN 1958 and the enactment of the exchange control act of 1962, exchange rate was earned by the private sector and held in balance abroad by commercial bank which acted as agent for local exporters. During this period, agriculture export contributed the bulk of exchange. The fact that the Nigeria pound was tied to the British pound sterling at par, with easy convertibility, delayed the development of an active exchange market. However, with the establishment of the CBN and the subsequent centralization of exchange rate authority in the, the need to develop or build exchange market became paramount.

2.1.3 Concept of Interest Rate

Bannock, G., Baxter, R. E. and Davis, E. (1998) defined interest rate as the price that a borrower has to pay in order to have access to the use of cash, which he or she does not own, and the return that a lender enjoys for foregoing consumption or liquidity in the current period. This definition explains interest rate as both a cost and a reward. Interest rate is a cost of capital, which influences the demand for loanable funds by borrowers in need of such. In this way, interest rates are seen as lending rates on different forms of loans and advances in the financial market. On the other hand, interest rate could be explained as a reward for accumulating financial assets and foregoing current consumption, which influences the willingness to save. In this way,

interest rate denotes deposit rates on various forms of deposits and savings instruments in the financial market.

Economists have long recognised interest rates as a pivotal tool in shaping the pace and direction of economic growth. John Maynard Keynes, for example, viewed interest rates as central to investment decisions, where lower rates tend to stimulate borrowing and economic expansion, while higher rates often dampen investment and consumption (Keynes, 1936). In contrast, the monetarist school, represented by Milton Friedman, emphasised the link between interest rates, money supply, and price stability, highlighting the dangers of using interest rate manipulation without considering monetary growth (Friedman, 1970).

Interest rates can be categorised into nominal and real rates. Nominal interest rates refer to the stated rate without adjusting for inflation, while real interest rates reflect the purchasing power of the return, accounting for inflation (Fisher, 1930). The Fisher equation formalises this relationship, stating that the nominal rate equals the real rate plus expected inflation. This distinction is crucial for policymakers, investors, and borrowers alike, as inflation can erode the real value of interest returns and influence economic behaviour.

2.1.4 Concept of Inflation Rate

Inflation is one of the macroeconomics variable and it significantly affect a country's national income. Inflation is the increase in the general price of goods and services in an economy. Different schools of thoughts such as neoclassical, post Keynesian, etc. defined inflation in different terms. If people expect inflation, it might become a self-

fulfilling prophecy that is inflation, when persistent can cause people to normalize and expect it. This perception can increase demand, causing inflation to become built in.

Jhingan (2005) refers to inflation as a persistent and appreciable rise in the general level or prices. Inflation depicts an economic situation where there is a general rise in the prices of goods and services continuously Solow-Swan (1956). Inflation is frequently described as a state where too much money is chasing few goods Solow-Swan (1956). The growth theory literature on inflation-growth nexus in the 1950s emphasized the positive impact of inflation on the rate of economic growth (popularly known as the Tobin effect) while the costs of inflation detailed in Fischer and Modigliani (1978) suggested a negative association through the new growth theory mechanisms. Other strands of related literature have also argued that the negative relationship between inflation and growth is not universal (i.e. it appears after certain inflation thresholds) and hence nonlinear.

Inflation is commonly measured using indices such as the Consumer Price Index (CPI), Producer Price Index (PPI), and the GDP deflator. The CPI, for instance, tracks changes in the price level of a representative basket of goods and services consumed by households, while the PPI focuses on prices at the wholesale level. These measures provide critical insight for policymakers and researchers, enabling them to monitor price stability and adjust economic strategies accordingly (IMF, 2022).

Inflation dynamics are influenced by numerous factors, including exchange rate movements, fiscal policies, and global economic trends. In open economies like Nigeria, currency depreciation often leads to imported inflation, as the cost of foreign goods and production inputs rises (Oladipo & Akinbobola, 2011). Similarly, persistent fiscal deficits financed through excessive monetary expansion can flood the economy with liquidity, thereby fuelling price increases (CBN, 2022). To mitigate these effects,

central banks often adopt monetary policy tools such as interest rate adjustments, open market operations, and reserve requirements to manage inflationary pressures.

The general theoretical knowledge of Inflation is centered on the Quantity Theory of Money, popularised by Milton Friedman. He asserts that inflation is always and everywhere a monetary phenomenon, highlighting the direct link between money supply growth and price levels (Friedman, 1970). Keynesian perspectives, however, emphasise the role of aggregate demand, wage-price interactions, and government spending in driving inflation. More recent New Keynesian models integrate inflation expectations and nominal rigidities, underscoring the importance of credible policy frameworks (Woodford, 2003).

2.2 THEORTICAL LITERATURE

2.2.1 THEORIES OF EXCHANGE RATE

2.2.1.1 The Mint Parity Theory

The Mint Parity Theory of exchange rate is an economic theory that explains the relationship between the value of a currency and the value of the metal used to mint coins. The rate at which the naira could be converted into gold is called the mint price of gold. This theory was widely accepted in the 19th century and played a significant role in shaping the international monetary system (Krugman & Obstfeld, 2009). The currency in use was made of gold or was convertible into gold at a fixed rate (Jhingan 2005). The value of the currency unit was defined in terms of certain weight of gold and the Central Bank of the country concerned was always ready to buy and sell gold at the specified price. The Mint Parity Theory assumes that coins can be minted freely without any restrictions or costs (Jevons, 1875). The theory relies

on arbitrage, which is the process of buying and selling commodities or currencies to take advantage of price differences (Marshall, 1890).

Some Criticisms and Limitations of the Mint Parity Theory are:

1. Assumes Free Coinage: The theory assumes that coins can be minted freely, which is not always the case (Gibson, 1889).

2. Ignores Other Factors: The theory ignores other factors that can affect the value of a currency, such as economic conditions, politics, and speculation (Hawtrey, 1928).

3. Limited Flexibility: The theory implies that exchange rates are fixed, which can limit a country's ability to respond to economic shocks (Meade, 1951).

2.1.1.2 The Purchasing Power Parity

The origin of purchasing power concept has been traced to the 16th century Salamanca School of Spain. The theory is formed by Gustav Cassel, a Swedish economist, who developed and popularized its empirical version in the 1920s Rogoff (1996). The theory implies that the exchange rate is determined by the demand for and supply of foreign exchange. The Purchasing Power Parity exchange rate theory explains how exchange rates are determined in the long run based on the relative price levels of two countries. It provides a fundamental theory for assessing whether a currency is overvalued or undervalued by comparing the cost of goods between countries.

Some of the assumptions of PPP are:

- Free Trade: PPP assumes that there are no trade barriers or restrictions between countries, allowing goods and services to flow freely.
- Perfect Competition: PPP assumes that markets are perfectly competitive, with many buyers and sellers, and no single entity has the power to influence prices.

- Homogeneous Goods: PPP assumes that the goods and services being compared are identical across countries.
- No Transportation Costs: PPP assumes that there are no transportation costs or other barriers to trade.

Some critiques of PPP Theory are:

- Assumptions Not Always Met: PPP assumes free trade, perfect competition, and homogeneous goods, which are not always met in reality.
- Ignores Transportation Costs: PPP ignores transportation costs, which can be significant for certain goods.
- Does Not Account for Differences in Taste and Preference: PPP assumes that consumers in different countries have the same tastes and preferences, which is not always the case.
- Can Be Affected by Inflation: PPP can be affected by inflation, as changes in prices can affect the exchange rate.

2.1.1.3 The Balance of Payment Theory

The balance of payments is the statement of a country's trade with other nations. The relationship between balance of payments and exchange rates under a floating-rate exchange system will be driven by the supply and demand for the country's currency and all transactions taking place with other countries. This theory specifies that under free exchange rates, the exchange rate of the currency of a country depends upon its balance of payment. According to Jhingan (2005), a favorable balance of payments raises the exchange rate, while an unfavorable balance of payments reduces the exchange rate. Hence, the theory implies that the exchange rate is determined by the demand and supply of foreign exchange.

The balance of payments theory argues that the rate of exchange of one economy's currency against another is determined by factors that are exogenous of the economy's internal price level and money supply (Johnson, 1977; Gomes, 1990; Arratibel et al., 2010). A country's exchange rate is dictated by its balance of payments conditions.

2.1.2 THEORIES OF INFLATION

2.1.2.1 Cost push theory

Cost-push inflation by Gordon (1985) is the rise in various input costs of production being passed on to the price-level of final products by producers, by service providers, by businesses and also by the government. It assumes the prices of goods are determined primarily by their manufacturing costs. When manufacturers have to pay more for materials, they sometimes transfer the extra costs to consumers by raising the price of produced goods. Mark-up pricing by sellers is one of the elements of cost-push type of inflation. In some situations, sellers add over and above the total cost of production that is a certain percentage to their product prices known as ‘mark-up’ by sellers. Mark-ups are done to ensure certain target rate of return for the producers.

This theory sheds light on the significance of supply-side dynamics, emphasizing the role of production factors in shaping the overall price level within an economy.

2.1.2.2 Structural theory

This theory claims that inflation is caused by structural weakness in a country’s capacity to produce goods or maintain an adequate flow of supply. There are two different versions on the structural theory of inflation.

The first version of structural theory of inflation is wage stickiness. This theory explains that it's easier for employers to increase wages than reduce them as workers will strongly fight again the reduction in wages. If business productivity decreases, companies are more likely to lay off workers than to decrease workers' wages. But if wages continue to boost demand amid low production of supply, the resulting inflation erodes real wages. Wages may be nominally the same, but their purchasing power declines, resulting in what's essentially a wage cut.

The second version of the structural theory of inflation is concerning developing countries. It focuses on conditions of under productivity and the relationship to the gap between imports and exports. In this case, imports tend to increase faster than exports. If a country imports more goods than it exports, it risks pushing down the international value of its own currency. That can increase domestic prices, especially for goods that are bring imported which leads to inflation.

But what causes under productivity in a country's domestic production and exports? Many developing countries may not have adequate infrastructure to produce, store, or transport goods. In many cases, there are scarce capital resources or human resources to spend on research and development, preventing countries from innovating or updating their existing technologies. Government policies may also contribute to structural maladjustments in the economy.

2.1.3 THEORY OF ECONOMIC GROWTH

2.1.3.1 Classical Model (The Harrod-Domar model)

The Harrod-Domar model of economic growth is based on the experience of advanced economies. They are primarily addressed to an advanced capitalist economy and attempt to analyze the requirements of steady growth in such economy

Assumptions of Harrod-Domar model

- There is an initial full employment equilibrium level of income
- There is the absence of government interference
- There are no changes in interest rate
- There is only one type of product
- The model operates in a closed economy which has no foreign trade
- The marginal propensity to save remains constant

The Harrod model

The Harrod model is based on their distinct rates of growth. First, there is the actual growth which is determined by the saving ratio and the capital output ratio. Secondly, there is the warranted growth rate which is the full capacity froth rate of income of an economy. Thirdly, there is the natural growth. It is the advanced which the increase in population and technological improvements allow. It depends on the macroeconomics variables like population, technology, natural resources and capital equipment.

The Domar model

Domain built his model around the following questions. Since investment generates income and also increases productive capacity, at what rate should investment increase in order to make the increase in income equal to the increase in productive capacity so that full

employment is maintained? He answered this question by figuring a link between aggregate supply and aggregate demand through investment

To achieve steady growth, aggregate demand should be equal to aggregate supply. That is to maintain full employment, the growth rate of net investment must be equal to the MPS times the productivity of capital. This is the rate at which investment must grow to assure the use of potential capacity in order to maintain a steady growth rate of the economy at full employment.

2.1.3.2 Neoclassical model (Solow growth model)

Solow built his model of economic growth as an alternative to the Harrod-Domar line of thought. Slow postulates a continuous production function linking output to the impacts of capital and labor which are substitutable.

Assumptions of Solow model

- Labor and capital are substitutable
- The saving ratio is constant
- Prices and wages are flexible
- There is perpetual full employment of Labor
- The two factors of production, labor and capital are paid according to their marginal physical productivities
- Output is regarded as net output after making allowance for the depreciation of capital

2.1.4 THEORIES OF INTEREST RATE

2.1.4.1 Liquidity Preference Theory

Liquidity Preference Theory: Liquidity preference theory says that interest rates adjust to balance the desire to hold cash against less liquid assets. The more people prefer liquidity, the higher interest rates must rise to make them willing to hold bonds. Thus, the theory views interest rates as a payment for parting with liquidity. Liquidity preference is influenced by various factors, including income level, risk tolerance, time horizon, and future expectations. Understanding these factors is crucial when making financial decisions, as they can help individuals and businesses determine the most suitable allocation of their funds.

2.1.4.2 Loan theory

According to this approach, the interest rate is determined by the demand for and supply of loanable funds. The term loanable funds include all forms of credit, such as loans, bonds, or savings deposits. In other words, the market interest rate is seen as the price of loans and it is thought to be determined just the way the price of any other good or service is determined in the market. So, a rise in the supply of loanable funds from savers such as households is believed to cause the market interest rate to drop while a drop in the supply of loanable funds is seen as causing a rise in market interest rates. On the other hand, a rise in the demand for funds from borrowers such as businesses and governments is supposed to cause a rise in interest rates while a drop in their demand for funds is expected to cause a fall in interest rates. In short, the supply of funds from lenders and the demand for funds from borrowers are seen as influencing the market interest rate. Loanable funds theorists argue that the interest paid on loans offers an incentive for savers to lend their money since they need to wait a certain period of time before they can get their original investment back. In other words, interest is seen as fair compensation paid to savers for waiting.

2.3 EMPIRICAL LITERATURE

Ikechukwu, O., Kalu, U., Ikwor, O., Elechi, O., Okereke, U., Cecelia, A., & Amarachi, E. (2023) examined the impact of exchange rates on economic growth in Nigeria. They found that there is a positive relationship between exchange rates, trade openness, and economic growth in the long run. Paul and Sylvester (2022) conducted a study on the influence of exchange rate fluctuation on economic growth in Nigeria for a period of 38 years (1983 to 2020). The E-GARCH model was employed to generate the volatility while the ordinary least square (OLS) was used in the analysis. The results from the empirical analysis showed that the trend in exchange rate movement have been more rapid since around 1985 when marked movements in the market began to be noticed. The volatility increased after 2000 and culminated in the deep sections seen between 2016 and 2019. Generally, the results from the OLS indicate that all the variables such as INTR, EXRT and INFL in the model do not have any significant impact on economic growth in Nigeria. The study recommends among others that, the government should control and regulate the exchange rate in the country in order to boost trading activities and returns in the Nigerian stock market.

Abdu, Umar, Mohammed and Ajannah (2021) examined the effect of exchange rate on economic growth from 1986 to 2019 using secondary data sourced from Central Bank of Nigeria Statistical Bulletin of various issues. From 1986 being the year the monetary authority shifted from fixed exchange rate regime to flexible exchange rate regime to 2019. The regression analysis using ordinary least square was used to analyze the data. The result revealed that exchange rate has significant positive effect on economic growth while interest rate and inflation rate have significant negative effect on economic growth.

Baghebo and Mienebimo (2024) investigate balance of trade, exchange rate and economic growth in Nigeria. Annual time series data for the period 1981 to 2021 obtained from the

Central Bank of Nigeria (CBN) statistical bulletin and National Bureau of Statistic (NBS). Heteroskedasticity Model was used in this investigation. GARCH, which is an enlarged framework of ARCH, and the Exponential Generalized Autoregressive Conditional Heteroskedasticity (EGACH). The results shows that trade balance and exchange rate, are more sensitive to bad news. This suggests that uncertainties surrounding exchange rate contribute significantly to the fluctuations. Also the ARCH effects initially present in balance of trade and exchange rate were entirely removed by each of the heteroskedastic models considered. Similarly, the impact of balance of trade on economic growth is negative and statistically significant. Also, exchange rate has undesirable significant impact on economic growth in Nigeria. This indicates that a undesirable change in the Nigerian naira has a larger impact on its fluctuation, which mainly indicates that during an appreciation (negative change) the currency tends to be more volatile and the relationship between trade balance and economic growth in Nigeria is positive not statistically significant. This study concludes that economic growth in Nigeria highly depends on external demand when the strong depreciation of the domestic currency also acts as a stimulus to growth. This study recommends that government should encourage export driven policies on trade balance that will boost export and enhance the export of primary products so as to attract foreign exchange inflows and foreign investment in order to promote economic growth in Nigeria.

On other macroeconomic variables. Osinubi (2019) investigated the effect of exchange rate volatility on economic growth in Nigeria time series data from1970 to 2016.The variables used in the study are exchange rate, inflation rate, and gross domestic product. The study utilized the error correction model as well as OLS. The study reveals a significant positive relationship between real GDP and exchange rate. This implies that, devaluation of the Naira increases economic performance in terms of exporting countries. The study recommended

that government should encourage export by adopting various exporting strategies that enable the growth of the economy.

In the study of Samuel, A. A., Olufemi, A. O., Lawrence, B. A., & Tony, I. N. (2017), they evaluated the impact of interest rates on Nigeria's economic growth. Using an error-correction mechanism, the researchers tested the short- and long-term relationships between saving deposits, real interest rates, and inflation. The results showed that the ECM was negative, and a subsequent Granger causality test revealed a unidirectional relationship between SD and GDP, meaning that savings deposits cause GDP. The study recommended that policies which would boost the saving accumulation in Nigeria that will increase Capital Formation are necessary for economic growth. This will also enhance lending to the real sector of the economy for productive economic activities. This could be done by increasing the deposit rate which would lure the people to deposit their money in banks thereby increasing the supply of loanable funds. This would lead to a fall in interest rate and eventually rise in investment.

Najeem (2024) examine the Impact of Exchange Rate Fluctuation on Nigeria Economy Growth. The study utilizes both quantitative data, sourced from the Central Bank of Nigeria, the National Bureau of Statistics, IMF, and the World Bank, covering the period from 1960 to 2022, and qualitative data from journal reviews. Employing the Multivariate Adaptive Regression Spline (MARS) method, the research identifies nonlinear relationships between GDP and key variables, including exchange rates, interest rates, inflation, imports, and exports. The findings indicate that exchange rate fluctuations are the most significant factor affecting economic growth, with a direct and substantial impact on GDP. Additionally, the study reveals that interest rates, imports, and exports have bidirectional effects on GDP. The results underscore the need for Nigerian government reforms to stabilize the exchange rate and mitigate its adverse effects on economic growth.

From 1990 to 2013, Fatoumata (2017) investigated the relationship between interest rates and economic growth in Nigeria. The findings indicated that while interest rates have a small effect on growth, growth can be enhanced by lowering interest rates, which will raise investment. The study's conclusion was that interest rate policies should be established by Nigerian authorities in a way that will promote economic growth. Thus, appropriate action needs to be done to achieve faster economic growth.

Godwin and Sergius (2021) examined the effect of exchange rate on the economic growth of Nigeria. It specifically looked at effect of exchange rate on gross domestic product (GDP), gross national product (GNP) and unemployment. Secondary data from the Central Bank of Nigeria Statistical Bulletin were collected for a period of ten years, 2009 to 2018. Ex-post facto research design was utilized. While some diagnostic tests were carried out to confirm the integrity of the data and their relatedness in both short- and long-term basis, Ordinary Least Square technique was employed in the analysis of hypotheses. It was found that while exchange rate had significant effect on GDP and GNP, it was no significant on unemployment. This implies that micro economic indices of GDP and GNP could be used to consciously adjust standard of living of the citizens. The study concludes that exchange rate should be handled with utmost concern by experts in the field to avoid unnecessary fluctuations that may inflict unbearable economic consequences on the Nigerian people. The study recommends, among others, the adoption of policies that will affect GDP in such a way that the welfare of the people can be upgraded.

Adeniyi and Olasunkanmi (2019) examined the impact of exchange rate volatility on economic growth in Nigeria. The study made use of ARDL co integration and Error Correction Model to capture the stated objective. The results revealed that there is existence of co integration among the variables. The findings also exhibited significant impact of export on Gross Domestic Product while import is insignificant both in the short and the long

run. The study established insignificant positive relationship between exchange rate volatility and economic growth in Nigeria.

Mahonnye & Tenda (2019) examined the exchange rate impact on output and inflation. This research looked at the inflationary effect of currency devaluation and its contractionary effect on real output growth in Zimbabwe. The study used quarterly data from 1990 – 2006 and used the Johansen co-integration regression test and Vector Error Correction Model (VECM). The study found that in both the short run and long run, fluctuations in the real exchange rates are significant on real output growth and expansion.

Raxmin (2020) investigated the effect of devaluation of currency on output growth in 17 developing countries with in the period 1988-2019. Using panel data analysis and Generalized Method Moments, the result shown that devaluation of currency is negatively related to growth of the economy. Bahani-Oskooee and Kandl (2021) investigated the transfer mechanism from exchange rate to EG in South East. Asian countries. They used monthly data between 1990 and 2019. Using Johansen Cointegration and Granger causality test, the result shown that the depreciation of local currencies had a negative impact on growth of the economy in these Asian countries. Galindo and Montero (2022) studied the causality relationship from exchange rate to economic growth and using panel data relating of 9 Latin American Countries. The result shown that increases i.e. exchange rate in countries which have high foreign debt ratio negatively affected EG.

Thapa (2021) investigated how exchange rate fluctuations affect output growth in Nepal. He used annual data from 1989 to 2019. The ECM result shown that real exchange rate had a contractionary impact on output growth. Domac (2021) studied how exchange rate fluctuations is related to growth of the economy between 1989 and 2019 in Turkey. Using

multiple regression analysis, he discovered that devaluation of the currency positively impacted output growth.

Adaramola & Dada (2020) examined the influence of inflation on the Nigerian economy's growth prospects. The study findings indicated that inflation and real exchange rate significantly negatively impact economic growth, while the interest rate and money supply indicate a positive and significant impact on economic growth. The causality result also shows the unidirectional relationships between interest rate, exchange rate, government consumption expenditures and gross domestic product, while inflation and the degree of openness show no causal relationship with gross domestic product.

Sakiru, Oladapo, Jayeola and Olutunji (2019) assessed empirically the impact of exchange rate on economic growth in Nigeria from 1981 to 2016. Data on GDP, Exchange rate, foreign direct investment (FDI), inflation rate, imports, exports, trade openness, final consumption expenditure (FCE), interest rate, and government expenditure were obtained from the different issues of the CBN Statistical Bulletin. Data series were assessed for stationarity with the aid of the ADF test. Bound test was conducted and the model was estimated within the ARDL framework supported by the relevant post estimation diagnostic tests. The bound test showed that there was long run relationship among the study variables. Model estimation revealed that import, lag of trade openness, FDI, lag of exchange rate, interest rate and inflation significantly affected the growth of the economy in the short run. In the long run, economic growth was affected by trade openness, FDI, exchange rate, government expenditure and interest rate

CHAPTER 3

METHODOLOGY

This chapter focuses on theoretical framework, model specification, method of data analysis estimation techniques and sources of data

3.1 Theortical Framework

This research is anchored on The Purchasing Power Parity (PPP) theory. This is an economic concept that explains how exchange rates between two currencies adjust to reflect changes in the price levels of the two countries. The theory is based on the "Law of One Price," which explains that identical goods should sell for the same price in different countries when prices

are expressed in a common currency assuming there is no transportation costs or trade barriers (Krugman & Obstfeld, 2018)

There are two forms of PPP and they are Absolute PPP and Relative PPP. Absolute PPP explains that exchange rates should equal the ratio of price levels in two countries while Relative PPP focuses on changes over time, stating that the rate of depreciation of a currency equals the inflation differential between two countries (Dornbusch, 1980).

The PPP theory suggests that in the absence of trade frictions, transportation costs, and market imperfections, identical goods should sell for the same price across countries when expressed in a common currency. So if prices in Nigeria rise faster than those in the United States, the theory expects the Naira to depreciate against the dollar in the long run to maintain equilibrium in purchasing power. However, in many developing economies, including Nigeria, the actual exchange rate often diverges significantly from the PPP-implied rate due to structural rigidities, market inefficiencies, and policy distortions.

Nigeria's exchange rate has experienced significant fluctuations ver the years, with various shifts from fixed to floating regimes and interventions by the Central Bank of Nigeria (CBN). These dynamics have important implications for economic performance, especially in a country that is heavily reliant on imports for both consumer and capital goods. The PPP theory offers valuable insights into the dynamics of these exchange rate movements.

Purchasing PP is expressed as:

$$S = \frac{p1}{p2}$$

where:*S*= Exchange rate of currency 1 to currency 2

*P*1= Cost of good *X* in currency 1

*P*2= Cost of good *X* in currency 2

By the above equation, when the exchange rate deviates significantly from its PPP value, it often reflects exchange rate misalignment. This deviation is due to distortion in domestic and foreign prices as a result of some factors (Qayyum, A., Khan, M. A., & Khair-u-Zaman. 2004). Exchange rate misalignment as explained in the PPP means that a country's currency is either overvalued or undervalued compared to what it should realistically be based on economic fundamentals like trade balance, inflation, productivity, or interest rates. Exchange rate mis-alignment affect the competitiveness of a country by changing the foreign prices of exports and also the domestic prices of imports. Therefore, an overvalued ex-change rate makes imports very attractive because less of the domestic currency is needed to purchase foreign goods but makes domestic exports hard to sell thus affecting competitiveness, creating current account deficits and creating global imbalances. However, an undervalued exchange rate makes exports very cheap, thereby encouraging foreigners to buy domestic exports. This tends to result in a current account surplus. In Nigeria, periods of overvaluation driven by administratively controlled exchange rates have made imports artificially cheap and exports uncompetitive. This tends to widen the trade deficit, suppress domestic production, and negatively affect non-oil sectors, ultimately reducing GDP growth (Obadan, 2006; Aliyu, 2009).

Exchange rate misalignments reduce investors' confidence. Investors look out for stability and predictability. If the exchange rate is frequently changing or misaligned investors begin to worry about risks like losing money due to sudden currency depreciation or facing policy changes that could affect their returns. Hence both local and foreign investors might postpone, reduce, or entirely withdraw their investments. This uncertainty reduces capital inflow, slows down the building of productive assets and affects productivity. In the long run, this damages

economic growth, because a thriving economy needs steady investment to support innovation, infrastructure, and employment.

3.2 Model Specification

The model for this study shall be specified as follows:

lnGDP= f (EXCR, INF, INT)

WHERE;

GDP: Economic Growth

EXCR= Exchange rate

INF= Inflation rate

INT= Interest rate

Economic Growth is the dependent variable while Exchange rate, inflation rate and interest rate are both independent variable

Econometrics modeling can be written as,

$\ln GDP = \beta 0 + \beta 1 EXCR + \beta 2 INF + \beta 3 INT + \varepsilon i$

$\beta 0$ is the intercept parameter while $\beta 1, \beta 2\, \beta 3$ are coefficient of the variables. εi is the stochastic error term

Objective 1: Examine the trend analysis of exchange rate and economic growth in Nigeria

In this study, objective one will be achieved by the use of line plots. This is to analyze the movement patterns between exchange rate fluctuations and economic growth over the period

of 1994-2024. This helps to identify trends, correlation and economic impacts that may exist between them.

Objective 2, 3&4: investigate the relationship between exchange rate, inflation & interest rate on Economic Growth

Econometrics model

$$lnGDP = \beta 0 + \beta 1EXCR + \beta 2INF + \beta 3INT + \varepsilon i$$

WHERE;

lnGDP: Economic Growth

EXR= Exchange rate

INF= Inflation rate

INT= Interest rate

Table 3.1 Definitions Of Terms

ITEM	SYMBOL	DATA SOURCE
Economic Growth	lnGDP	World Development Indicators
Exchange Rate	EXCR	World Development Indicators
Inflation Rate	INF	World Development

		Indicators
Interest Rate	INT	World Development Indicators

3.3 Method Of Data Analysis

The result of this work shall be evaluated in two ways which are statistical and econometric criteria.

3.3.1 STATISTICAL TEST (first – order)

Under the statistical test (first –order), we will test for the goodness of fit, the individual significance of each regression using the f- test and finally, significance of the regression model using the f-test.

- Goodness of fit test: We shall make of the coefficient of multiple determination R2 to find how well the sample regression line fits the data. R2 measure how the variations in the explanatory variable effect the dependent variable.

- The f-test: This helps to determine whether the overall model is significant or not in explaining the problem under discussion. We interpret F-test with the help of it's probability value by using 5% level of significance

3.3.2 Econometric (Second Order Test)

Econometric test was be used for empirical verification of the model. This ranges from test including autocorrelation test, normality test, heteroscedasticity and multicollinearity test.

- Autocorrelation: Autocorrelation refers to an error term that forms a pattern which becomes systematic and predictable. The presence of autocorrelation in a model means the model is bad while the absence of autocorrelation means the model is good. In order to detect autocorrelation in regression output is to check the value of dubin Watson statistics. If the during Watson statistics is approximately to 2, we conclude that the model is free from autocorrelation but if the dubin Watson statistics value cannot be approximate to 2, the model suffers from autocorrelation and the model becomes bad
- Heteroscedasticity test: Heteroscedasticity occurs when the variance of the error term additional of the chosen values of the explanatory variables is not constant. In order to capture heteroscedasticity and specification bias, the cross-product term will be introduced among auxiliary regressions.
- Multicollineaerity test: This is a situation in which there is multiple correlation among the independence variables which makes it difficult to measure the independent impact of each of the independent variables on the dependent variable

3.4 Estimation Techniques.

The study employs a series of econometric techniques to analyse the effect of exchange rate dynamics on economic growth in Nigeria. The analysis begins with an examination of the descriptive statistics for each variable. Descriptive statistics provide a summary of the basic characteristics of the data set, including measures of central tendency (mean, median), dispersion(standard deviation, variance), and the shape of the distribution (skewness, kurtosis). This initial analysis helps to understand the general properties of the data, identify any anomalies, and ensure the quality of the data set.

The analysis then test for stationarity using the Augmented Dickey-Fuller (ADF) test. This test is crucial to ensure that the time series data for all variables: Economic Growth(GDP), Exchange rate(EXCR), Inflation Rate(INF) AND Interest Rate(INT) are stationary. Stationary data have a constant mean and variance over time, which is necessary to avoid spurious regression results. If the series are found to be non-stationary, they are differenced to achieve stationarity. Once stationarity is confirmed, the next step involves co-integration testing using the Johansen co-integration test. This test checks whether there is a long-term equilibrium relationship between the variables. For the model investigating the effect of exchange rate dynamics on growth in Nigeria, expressed as ;

$$lnGDP = \beta 0 + \beta 1EXCR + \beta 2INF + \beta 3INT + \varepsilon i$$

The co-integration test helps determine if these variables move together over time. If co-integration is detected, it suggests that despite short-term fluctuations, the variables share a common long-term trend.

The variables are stationary at levels and at first difference therefore Auto Regressive Distributive Lag(ADRL) is adopted. The ARDL model is advantageous because it can handle variables with different orders of integration (I(0) and I(1)), and it is effective for small sample sizes. This model allows the analysis of both short-term and long-term relationships between variables.

3.5 Sources Of Data

The data used in this research paper is gotten from World Development Indicators

CHAPTER 4

PRESENTATION AND DISCUSSION OF FINDINGS

4.1 Results of the Descriptive Statistics

In this section, a number of variables and proxies' summary statistics for the overall sample is presented and discussed.

4.1.1 Summary Statistics For Exchange rate, Economic growth, Inflation Rate and Interest rate.

Given the descriptive statistics as depicted in table 4.1, the basic characteristics of series in the model of the study is summarized in a meaningful way.

TABLE 4.1: Summary Statistics

	EXCR	lnGDP	INF	INT
Mean	4.938253	4.291957	17.17968	3.458778
Median	5.003141	4.195924	12.87658	5.685580
Maximum	7.299098	15.32916	72.83550	18.18000
Minimum	3.085775	-1.814924	5.388008	-31.45257
Std. Dev.	1.017950	3.617255	14.35271	9.403764
Skewness	-0.320554	0.568163	2.672928	-1.798163
Kurtosis	3.214895	4.190566	9.974890	7.600105
Jarque-Bera	0.590550	3.498714	99.75188	44.03877
Probability	0.744327	0.173886	0.000000	0.000000
Sum	153.0858	133.0507	532.5702	107.2221
Sum Sq. Dev.	31.08667	392.5359	6180.011	2652.924
Observations	31	31	31	31

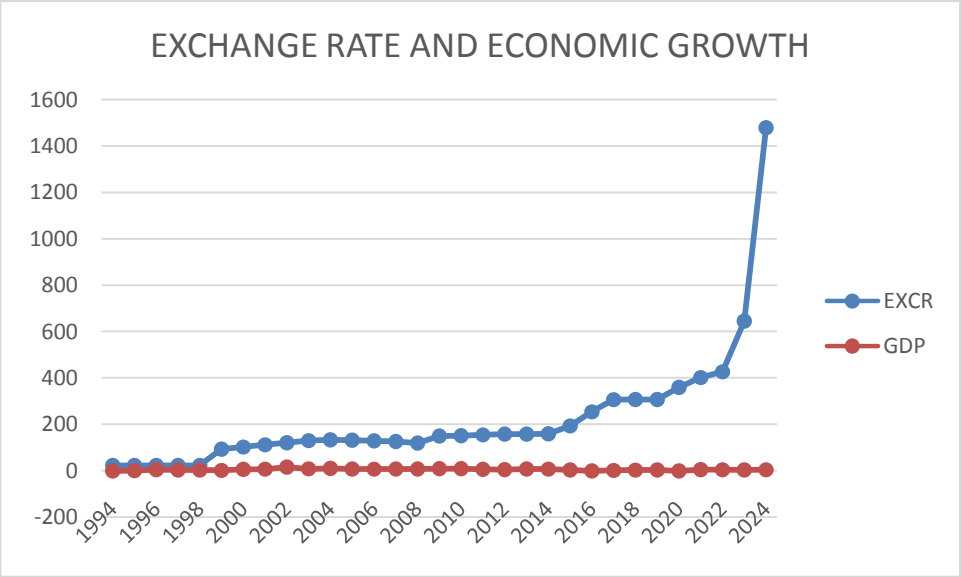
Source: Author's computation, 2025

Table 4.1 presents the summary statistics for the variables: exchange rate (EXCR), gross domestic product growth rate (lnGDP), inflation rate (INF), and interest rate (INT) over 31

observations. The results reveal that the mean values for EXCR, lnGDP, INF, and INT are 4.94, 4.29, 17.18, and 3.46 respectively, with lnGDP and EXCR showing relatively low dispersion, as indicated by their standard deviations of 3.62 and 1.02, compared to the higher volatility observed in INF (14.35) and INT (9.40). The maximum inflation rate recorded (72.83) suggests the presence of periods of severe price instability, while the interest rate range (-31.45 to 18.18) indicates significant fluctuations over the study period. Skewness statistics show that EXCR and INT are negatively skewed, suggesting a longer left tail, while GDP and INF are positively skewed. Kurtosis values indicate that EXCR is approximately normally distributed (3.21), whereas GDP, INF, and INT exhibit leptokurtic distributions (>3), implying the presence of heavy tails and outliers. The Jarque-Bera test results show that EXCR and GDP are normally distributed (p-values of 0.744 and 0.174, respectively), while INF and INT significantly deviate from normality (p-value = 0.000).

4.2 Trend Analysis Between Exchange Rate And Economic Growth

FIGURE 4.1: TREND ANALYSIS BETWEEN EXCHANGE RATE AND ECONOMIC GROWTH (1994-2024)



Source: Author's computation, 2025

The first objective of the study is to examine the trend analysis of exchange rate and economic growth in Nigeria. The analysis makes use of line plots to achieve this objective. The time series line plot shows the trend of the selected variables. The trend analysis of exchange rate and economic growth is depicted in figure 4.1. In Nigeria as a whole, from 1994-2015, the exchange rate gradually increased but remained relatively stable and moderate. From 2016 onward, there's a noticeable upward surge in exchange rate showing increasing depreciation on naira. From 2021-2024, the exchange rate spiked sharply, crossing over #1000USD indicating a rapid devaluation of currency.

Nigeria's GDP appears relatively flat and stable throughout the years. It shows minor increases and decreases but no significant growth compared to the exchange rate

4.3 Correlation Metrix

TABLE 4.2 : Correlation Metrix

	EXCR	lnGDP	INF	INT
EXCR	1.000000	0.019795	-0.292160	0.294731
lnGDP	0.019795	1.000000	-0.373176	0.249521
INF	-0.292160	-0.373176	1.000000	-0.823366
INT	0.294731	0.249521	-0.823366	1.000000

Source: Author's computation, 2025

The correlation matrix above presents the linear relationships among four key macroeconomic variables: the natural logarithm of exchange rate (EXCR), Gross Domestic Product (lnGDP), Inflation rate (INF), and Interest rate (INT). The Pearson correlation coefficient (r) is used to quantify the degree of linear association between pairs of variables,

with values ranging from -1 to +1. A coefficient closer to +1 indicates a strong positive relationship, while a coefficient closer to -1 signifies a strong negative relationship. A value near 0 implies little or no linear relationship.

There exists a very weak positive correlation (r = 0.0198) between EXCR and lnGDP. Statistically, this implies almost no linear association between the exchange rate and the gross domestic product. Economically, this suggests that fluctuations in the exchange rate over the period under study did not significantly impact the level of output in the economy, or vice versa. This may be due to structural factors such as Nigeria's limited export diversification or the relative independence of GDP from exchange rate movements in the short term.

The correlation coefficient between EXCR and INF is -0.2922, indicating a weak negative relationship. As the exchange rate increases (depreciates), inflation tends to decline slightly, and vice versa. This could imply that exchange rate depreciation may not be significantly inflationary in this context, possibly due to monetary sterilization policies or import substitution effects. However, given the weak magnitude of the relationship, the exchange rate is not a strong predictor of inflationary trends in this period. There is a weak positive correlation (r = 0.2947) between EXCR and INT. This suggests that an increase in exchange rate (depreciation of domestic currency) is weakly associated with rising interest rates. This relationship could be interpreted within the framework of monetary policy responses to exchange rate volatility. Central banks may raise interest rates in an attempt to stabilize the currency and prevent capital flight. However, the weak correlation implies that interest rates respond to a broader set of macroeconomic conditions beyond exchange rate fluctuations.

A moderate negative correlation (r = -0.3732) is observed between lnGDP and INF. This implies that as GDP increases, inflation tends to decline. From an economic standpoint, this may reflect the supply-side effect where increased productivity and output help stabilize

prices. It may also be indicative of a macroeconomic environment where growth is achieved with relative price stability, possibly due to disciplined fiscal policies or improvements in domestic production capacities.

The lnGDP and INT correlation is positive but weak (r = 0.2495). This indicates that as GDP grows, interest rates tend to rise slightly. Economically, this could point to a policy-driven mechanism where economic expansion leads to expectations of inflationary pressure, prompting the monetary authority to pre-emptively raise interest rates. Alternatively, it could reflect increased demand for credit during growth phases, putting upward pressure on interest rates. Nonetheless, the weak strength of the correlation implies that other dynamics significantly influence the interest rate beyond GDP changes.

A strong negative correlation (r = -0.8234) exists between inflation and interest rates. This is a significant inverse relationship, suggesting that rising inflation rates are strongly associated with declining interest rates, and vice versa. This is contrary to standard monetary theory, which posits a positive relationship, that higher inflation should trigger higher interest rates as a containment measure. The observed negative correlation could reflect monetary policy lags, inconsistencies, or political interference in interest rate determination. It may also signal structural weaknesses in the financial system, where interest rates do not effectively respond to inflationary trends.

4.4 Result Of Unit Root Test.

The result of the stationarity tests conducted on all the data are presented in table

TABLE 4.3: Result of Augmented dickey fuller test for unit root

VARIABLE	PROB-VALUE	T-STAT	ORDER OF

			INTEGRATION
EXCR	0.0019	-4.352368	I(1)
lnGDP	0.0410	-3.056698	I(0)
INF	0.0268	-3.249180	I(0)
INT	0.0000	-5.831514	I(0)

Source: Author's computation, 2025

The result for the unit root test for the variables is presented. The result as shown in table 4.3 indicates that economic growth, inflation rate and interest are stationary at level. This means that economic growth, inflation rate and interest are I(0) series. While, Exchange rate is stationary at first difference, It is the series I(1). The economic implication of stationary variable implies that any disturbance or shock to it will not be sustained for a long period of time, that is, a shock to the variable will die out over time.

4.5 Co-integration Test.

Having checked for stationarity in the model, it was observed that the variables were differenced at different orders [I(1) and I(0)]. When a the variables in the model are of different orders we use the Auto Regressive Distributive Lag (ADRL) bound test to see if these variables are co-integrated.

4.6 ARDL SHORT RUN

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
EXCR(-1)	1.675376	0.324038	5.170299	0.0006

EXCR(-2)	0.727356	0.292541	2.486342	0.0346
EXCR(-3)	-0.589361	0.331128	-1.779860	0.1088
EXCR(-4)	-0.295870	0.170193	-1.738436	0.1161
lnGDP	-0.041178	0.018938	-2.174365	0.0577
lnGDP(-1)	0.013954	0.019911	0.700852	0.5011
lnGDP(-2)	0.074902	0.022691	3.300929	0.0092
INF	-0.010874	0.013520	-0.804262	0.4420
INF(-1)	0.028646	0.013787	2.077660	0.0675
INF(-2)	0.008590	0.013808	0.622143	0.5493
INF(-3)	-0.027805	0.010666	-2.606929	0.0284
INF(-4)	0.041814	0.010211	4.094888	0.0027
INT	0.017136	0.008600	1.992608	0.0775
INT(-1)	0.013578	0.010515	1.291262	0.2288
INT(-2)	-0.006090	0.008302	-0.733590	0.4819
INT(-3)	-0.013973	0.011168	-1.251157	0.2424
INT(-4)	-0.006945	0.007869	-0.882550	0.4004
C	-3.480784	1.290559	-2.697113	0.0245
R-squared	0.990018	Mean dependent var		5.212485
Adjusted R-squared	0.971164	S.D. dependent var		0.768375
S.E. of regression	0.130479	Akaike info criterion		-1.000480
Sum squared resid	0.153224	Schwarz criterion		-0.136589
Log likelihood	31.50648	Hannan-Quinn criter.		-0.743600
F-statistic	52.50855	Durbin-Watson stat		2.429907

Prob(F-statistic)	0.000001			

Source: Author's computation, 2025

The table above presents the short-run results of an Autoregressive Distributed Lag (ARDL) model. This model analyzes the short-term dynamics and adjustments of exchange rate dynamics on economic growth in Nigeria towards their long-run equilibrium. The ARDL short-run results reveal the immediate and lagged effects of the independent variables on the dependent variable, providing insights into the short-term dynamics and adjustment mechanisms within the economic system being modeled. The significance of various lagged terms highlights the importance of past values in influencing current short-run behavior.

The table shows the coefficients, standard errors, t-statistics, and p-values for various variables and their lags, which are EXCR(Exchange rate), lnGDP(Economic Rate) , INF (inflation), INT (interest rate),

The EXCR(-1) and EXCR(-2) have positive and significant coefficients with p-values 0.0006 and 0.0346, respectively. This suggests that past values of EXCR have a positive and statistically significant short-run impact on the dependent variable. This implies that a depreciation or appreciation, in the previous periods leads to a positive effect in the current period. EXCR(-3) and EXCR(-4) are not statistically significant at conventional levels with p-values 0.1088 and 0.1161 respectively, indicating their short-run impact is not significant. INF(-1) and INF(-3) are lag variables that show significant coefficients and p-values 0.0675 and 0.0284 respectively. Specifically, INF(-3) has a negative and significant impact, suggesting that past inflation from three periods ago has a dampening effect in the short run. INT has a positive and marginally significant coefficient and p-value 0.0775 which suggests a weak positive short-run impact of the current interest rate. Other lags of INT are not statistically significant at conventional levels.

The Overall Model Fit which is identified as R-squared (0.990018) and Adjusted R-squared (0.971164) shows high values which indicate that the model explains a very large proportion of the variation in the dependent variable, suggesting a good fit. The highly significant F-statistic (52.50855) and Prob F-statistic (0.000001) indicates that the overall model is statistically significant and the independent variables collectively explain the variation in the dependent variable. This statistic tests for autocorrelation in the residuals which is Durbin-Watson stat (2.429907). A value close to 2 suggests no significant autocorrelation. The standard error (Std. Error) measures the precision of the estimated coefficient. A smaller standard error suggests a more precise estimate. The t-Statistic tests the statistical significance of each coefficient. It is calculated by dividing the coefficient by its standard error. The probability value(p-value) indicates the probability of observing a t-statistic as extreme as, or more extreme than, the calculated one, assuming the null hypothesis (that the coefficient is zero) is true. A p-value less than a chosen significance level (e.g., 0.05 or 0.10) suggest that the variable is statistically significant in explaining the dependent variable in the short run.

4.7 ARDL LONG RUN

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-3.480784	1.290559	-2.697113	0.0245
EXCR(-1)*	0.517501	0.214625	2.411182	0.0392
lnGDP(-1)	0.047679	0.028820	1.654361	0.1324
INF(-1)	0.040372	0.014433	2.797135	0.0208
INT(-1)	0.003705	0.018661	0.198533	0.8470
D(EXCR(-1))	0.157875	0.166537	0.947988	0.3679
D(EXCR(-2))	0.885231	0.326677	2.709802	0.0240

D(EXCR(-3))	0.295870	0.170193	1.738436	0.1161
D(lnGDP)	-0.041178	0.018938	-2.174365	0.0577
D(lnGDP(-1))	-0.074902	0.022691	-3.300929	0.0092
D(INF)	-0.010874	0.013520	-0.804262	0.4420
D(INF(-1))	-0.022600	0.013856	-1.631037	0.1373
D(INF(-2))	-0.014009	0.012458	-1.124516	0.2899
D(INF(-3))	-0.041814	0.010211	-4.094888	0.0027
D(INT)	0.017136	0.008600	1.992608	0.0775
D(INT(-1))	0.027009	0.015299	1.765373	0.1113
D(INT(-2))	0.020918	0.013262	1.577323	0.1492
D(INT(-3))	0.006945	0.007869	0.882550	0.4004

* p-value incompatible with t-Bounds distribution.

F-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic	Value	Signif.	I(0)	I(1)
			Asymptotic: n=1000	
F-statistic	8.552811	10%	2.37	3.2
K	3	5%	2.79	3.67

		2.5%	3.15	4.08
		1%	3.65	4.66
Actual Sample Size	27		Finite Sample: n=35	
		10%	2.618	3.532
		5%	3.164	4.194
		1%	4.428	5.816
			Finite Sample: n=30	
		10%	2.676	3.586
		5%	3.272	4.306
		1%	4.614	5.966

Source: Author's computation, 2025

The Autoregressive Distributed Lag (ARDL) long-run estimates, with Economic Growth (lnGDP) as the dependent variable and exchange rate (EXCR), inflation (INF), and interest rate (INT) as independent variables, reveal that there is a statistically significant long-run relationship among the variables, as confirmed by the F-Bounds test. The computed F-statistic of 8.55 exceeds the upper bound critical values at the 5% significance level, thereby rejecting the null hypothesis of no levels relationship. This result implies that GDP and the selected macroeconomic variables (Exchange rate, Interest rate and Inflation rate) tend to

move together over time. Disturbances in one variable are eventually reflected in the others, suggesting an underlying equilibrium path linking them.

In the long-run coefficients, the exchange rate (EXCR(-1)) has a positive and statistically significant coefficient (0.5175 and p. Value 0.0392). This suggests that, holding other factors constant, an increase in the exchange rate in the previous period is associated with a rise in GDP in the current period. Economically, this could imply that exchange rate depreciation if interpreted as a rise in domestic currency units per foreign currency may stimulate output in the long run through improved export competitiveness and substitution of imports with domestic goods. However, such an effect may depend on the structure of the economy, especially the capacity of the tradable sector to respond to price signals.

Similarly, inflation (INF(-1)) exhibits a positive and significant long-run coefficient (0.0040, p. Value 0.0208). This finding suggests that, within the sample period, higher inflation levels are associated with marginally higher GDP in the long run. While this may indicate that moderate inflation accompanies demand-driven economic expansion, it should not be interpreted as evidence that high inflation is desirable. Persistent or uncontrolled inflation can erode purchasing power and destabilize growth.

The interest rate (INT(-1)) shows a positive but statistically insignificant coefficient (0.0037, p. Value 0.8470), implying that, within this model specification, the long-run level of interest rates does not exert a detectable influence on GDP. This may reflect offsetting effects. While higher rates can attract investment capital, they may simultaneously dampen domestic borrowing and consumption. The insignificant coefficient suggests that interest rate policy may influence GDP through indirect or short-term channels rather than a persistent long-run effect.

CHAPTER FIVE

SUMMARY, CONCLUSSIONS AND RECOMMENDATIONS

5.1 Summary

This study examines exchange rate dynamics on economic growth in Nigeria over the period 1994–2024, with particular reference to the roles of inflation and interest rates.

The trend analysis revealed a persistent and accelerating depreciation of the naira over the 30-year period, with the currency remaining relatively stable up to 2015 before experiencing sharp declines from 2016 onwards. The most dramatic devaluation occurred between 2021

and 2024, when the exchange rate surpassed ₦1000 to the US dollar. In contrast, GDP growth remained largely flat and unresponsive to these currency movements, indicating that exchange rate depreciation did not translate into significant economic expansion.

The ARDL estimation technique shows in the short run that past values of exchange rate significantly influenced current GDP, suggesting that exchange rate changes have immediate effects on economic activity. Consequently, in the long run, exchange rate levels were also found to be statistically significant in explaining GDP movements. However, the positive relationship observed was relatively weak.

Also, interest rates exerted minimal long-run influence on GDP, while some short-run effects were observed, they were weak and inconsistent, suggesting that Nigeria's monetary policy transmission mechanisms remain uncertain in directing the economy. Structural bottlenecks in the financial system and limited access to credit likely constrain the role of interest rates in stimulating investment-led growth.

Inflation rate displayed a complex and time-dependent relationship with GDP. Certain lag periods showed negative effects, indicating inflation's potential to erode purchasing power and dampen growth. Other lags, however, displayed positive effects, possibly reflecting inflation-driven incentives for short-term production in specific sectors. Overall, inflation was found to be a significant long-run determinant of GDP, but its influence is shaped by broader macroeconomic conditions and policy responses.

In summary, the analysis confirms that while exchange rate dynamics and inflation significantly influence Nigeria's economic growth, their impacts are often constrained or distorted by structural economic weaknesses. Interest rates, on the other hand, remain an underutilized tool for driving growth, underscoring the need for deeper reforms in the country's financial and monetary policy frameworks.

5.2 Conclusion

It could be concluded from the findings that exchange rate movements have remained a defining feature of Nigeria's macroeconomic landscape, with the naira experiencing prolonged depreciation and periods of severe volatility, especially after 2016. While exchange rate changes were found to have both short-run and long-run effects on GDP, their overall impact on growth has been limited by the country's heavy reliance on crude oil exports, weak export diversification, and structural production constraints.

Inflation emerged as a significant but inconsistent driver of economic growth. At certain points, high inflation dampened purchasing power and slowed output expansion, while at other times it appeared to stimulate short-term economic activity. This mixed outcome underscores the importance of the broader economic and policy context in shaping inflation's net effect on growth.

Interest rates, on the other hand, were found to have minimal long-term influence on GDP, reflecting the underdevelopment of Nigeria's monetary policy transmission mechanisms. Structural inefficiencies in the financial system and restricted access to affordable credit have limited the ability of interest rate adjustments to drive productive investment and stimulate broad-based growth.

Overall, the study concludes that Nigeria's economic growth performance over the last three decades has been constrained not merely by macroeconomic volatility, but by deep-rooted structural challenges. Exchange rate stability and inflation control are essential, but they must be complemented by structural reforms, economic diversification, and an effective financial system if Nigeria is to achieve sustainable and inclusive economic growth.

5.3 Recommendations

Based on the findings of this study, several policy recommendations are proposed to promote sustainable economic growth in Nigeria.

1. Stabilizing the exchange rate should be a priority. This can be achieved by adopting a unified, market-reflective exchange rate system and eliminating the inefficiencies associated with multiple currency windows. A stable and transparent exchange rate regime will improve investor confidence, reduce uncertainty, and enhance the competitiveness of Nigerian exports.

2. Controlling inflation requires more than short-term monetary measures. It demands structural reforms that address supply-side constraints. Efforts should be made to boost local production capacity, particularly in key sectors such as agriculture and manufacturing, thereby reducing the economy's heavy dependence on imports and minimizing imported inflation.

3. The transmission of monetary policy must be strengthened. Reforms in the financial sector are necessary to ensure that changes in interest rates have a meaningful impact on investment and consumption decisions. This will require reducing structural bottlenecks, improving credit access, and fostering an efficient lending environment.

5.4 Contributions to Knowledge

The study contributes to existing knowledge by providing empirical evidence on the short-run and long-run effects of exchange rate, inflation, and interest rates on Nigeria's economic growth over a 30-year period. It advances understanding of the asymmetrical and time-lagged nature of inflation's influence on GDP within a developing economy context. Furthermore, it reveals the limited role of interest rates in stimulating growth under Nigeria's prevailing structural and policy conditions, while highlighting a strong negative correlation between inflation and interest rates that departs from conventional macroeconomic theory.

Methodologically, the study contributes a robust ARDL-based econometric framework that can be adapted to analyze similar macroeconomic challenges in other economies experiencing currency volatility and structural imbalances.

REFERENCES

Adeniran, A. O., Sidiq, M., & Omisakin, O. (2020). The oil price shock and Nigeria's economy: Exploring the role of diversification. Journal of African Development Studies, 12(3), 45–62.

Adeniran, J. O., Yusuf, S. A., & Adeyemi, O. A. (2014). The impact of exchange rate on inflation in Nigeria. Journal of Economics and Sustainable Development, 5(4), 46–55.

Adaramola, A. O., & Dada, O. (2020). Impact of inflation on economic growth: Evidence from Nigeria. Investment Management and Financial Innovations, 17(2), 1–13.

Afolabi, A. A., Adeoye, B. W., & Olayemi, K. O. (2022). Exchange rate volatility and economic growth in Nigeria: Evidence from ARDL bounds testing approach. African Economic Review, 10(2), 45-67.

Akinlo, A. E. (2004). The macroeconomic effects of monetary policy in Nigeria. Journal of Policy Reform, 7(1), 59–72.

Anu, K.T., Oluwaloba, O. A., Francis, O.L, Anayo, V.E., Friday, C.N., & Isaac, A. (2022). Monetary Policy Shocks and Economic Growth in Nigeria. Indonesian Journal of Contemporary Education. 4(2), 71 – 79

Arratibel, O., Furceri, D., Martin, R., & Zdzienicka, A. (2011). The effect of nominal exchange rate volatility on real economic performance in the CEE countries. Economic Systems, 35(2), 261– 277.

Arawomo, T., & Dahunsi, S. (2017). Exchange rate volatility, foreign direct investment and manufacturing sector performance in Nigeria. Ife Journal of Economics and Finance, 6(1&2), 154–162.

Asogu, J. O. (1991). An econometric analysis of the nature and causes of inflation in Nigeria. Central Bank of Nigeria Economic and Financial Review, 29(3).

Bagehot, W. (1873). Lombard Street: A description of the money market. London: Henry S. King.

Bannock, G., Baxter, R. E. and Davis, E. (1998). The Penguin Dictionary of Economics, New York: Penguin Group Publishers.

Bayangos, V. B. (2010). Does the Bank Credit

Barro, R. J., & Sala-i-Martin, X. (2004). Economic growth (2nd ed.). MIT Press.

Bordo, M. D. (1993). The Bretton Woods international monetary system: A historical overview. In M. D. Bordo & B. Eichengreen (Eds.), A retrospective on the Bretton Woods system (pp. 3–98). University of Chicago Press.

Cao, Z., El Ghoul, S., Guedhami, O., & Kwok, C. (2019). National culture and the choice of exchange rate regime. Journal of International Money and Finance, 93, 1–58.

Central Bank of Nigeria. (2022). Statistical bulletin. Abuja: CBN.

Chichi, O. A., & Casmir, O. C. (2014). Exchange rate and the economic growth in Nigeria. Exchange, 2(2), 78–87.

Dornbusch, R. (1980). Exchange rate economics: Where do we stand? Brookings Papers on Economic Activity, 1980(1), 143–185.

Ene, E. E., Atong, A. S., & Ene, J. C. (2015). Effect of interest rates deregulation on the performance of deposit money banks in Nigeria. International Journal of Managerial Studies and Research, 3(9), 164–176. https:// www. arcjo urnals. org/ pdfs/ ijmsr/ v3-i9/ 16. pdf

Dwivedi, D. N. (2004). Managerial economics (6th ed.). Vikas Publishing House.

Fatoumata, K. M. (2017). Impact of interest rate on economic growth in Nigeria. Pyrex Journal of Business and Finance Management Research, 3(3), 98–111.

Fisher, I. (1930). The theory of interest. Macmillan.

Friedman, M. (1960). A program for monetary stability. Fordham University Press.

Friedman, M. (1970). The counter-revolution in monetary theory. Institute of Economic Affairs.

Gibson, A. H. (1889). The future of the gold standard. Bankers' Magazine, 48, 415–427.

Gomes, L. (1990). Balance of payments theory. In Neoclassical international economics. Palgrave

Macmillan. https://doi.org/10.1057/9780230371552-8

Hamilton, J. D. (2001). A structural econometric analysis of inflation and money growth in Nigeria. Journal of Monetary Economics, 47(2), 395–414.

Hanke, S. H., & Kwok, A. K. F. (2009). On the measurement of Zimbabwe's hyperinflation. Cato Journal, 29(2), 353–364.

Hawtrey, R. G. (1928). Currency and credit. Longmans, Green and Co.

Hicks, J. R. (1939). Value and capital. Clarendon Press.

Ikechukwu, O., Kalu, U., Ikwor, O., Elechi, O., Okereke, U., Cecelia, A., & Amarachi, E. (2023).

Impact of the exchange rate on economic growth in Nigeria. International Journal of Innovative Research in Education, Technology & Social Strategies, 10(2), 119–136.

International Monetary Fund. (2022). World economic outlook database. Washington, D.C.: IMF.

Jevons, W. S. (1875). Money and the mechanism of exchange. D. Appleton & Company.

Ghosh, A. R., Ostry, J. D., & Chamon, M. (2018). Two targets, two instruments: Monetary and exchange rate policies in emerging market economies. International Monetary Fund.

Johnson, H. G. (1977). Money, balance-of-payments theory, and the international monetary problem. In Essays in International Trade (No. 124, pp. 1–25).

Keynes, J. M. (1925). The economic consequences of Mr. Churchill. Macmillan.

Keynes, J. M. (1936). The general theory of employment, interest, and money. Macmillan.

Kindleberger, C. P. (1984). A financial history of Western Europe. George Allen & Unwin

Krugman, P. R., & Obstfeld, M. (2009). International economics: Theory and policy (8th ed.). Pearson Education.

Krugman, P. R., & Obstfeld, M. (2018). International economics: Theory and policy*(11th ed.). Pearson.

Moser, G. C. (1994). The main determinants of inflation in Nigeria. IMF Working Paper.

Obamuyi, T. M. (2009). An investigation of the relationship between interest rates and economic growth in Nigeria. Journal of Economics and International Finance, 1(4), 93–98.

Obamuyi, T. M., & Olorunfemi, S. (2011). Financial reforms, interest rate behaviour and economic growth in Nigeria. Journal of Applied Finance and Banking, 1(4), 39–55.

Okpara, G. C. (2006). Capital market in the development of Nigeria's economy: An empirical analysis. Nigerian Journal of Economic and Financial Research, 1(6).

Oladipo, S. O., & Akinbobola, T. O. (2011). Budget deficit and inflation in Nigeria: A causal relationship. Journal of Emerging Trends in Economics and Management Sciences, 2(1), 1–8.

Qayyum, A., Khan, M. A., & Khair-u-Zaman. (2004). Exchange rate misalignment in Pakistan: Evidence from purchasing power parity theory. The Pakistan Development Review, 43(4/2), 721–735.

Samuel, A. A., Olufemi, A. O., Lawrence, B. A., & Tony, I. N. (2017). Interest rate and economic growth: The case of Nigeria. International Review of Business Research Papers, 13(1), 141–150.

Sen, A. (1999). Development as freedom. Oxford University Press.

Todaro, M. P., & Smith, S. C. (2004). Economic development (8th ed.). Pearson.

Udoka, C. O., & Roland, A. A. (2012). The effect of interest rate fluctuation on the economic growth of Nigeria, 1970–2010. International Journal of Business and Social Science, 3(20), 295–302.

Woodford, M. (2003). Interest and prices: Foundations of a theory of monetary policy. Princeton University Press.

World Bank. (2023). Nigeria development update: Turning the corne. World Bank Group.

World Bank. (2023). Nigeria overview. World Bank Group.