

Real Exchange Rate, Consumption Expenditure and Economic Growth in NigeriaUgwu, Ogochukwu Pamela¹ & Israel, Godsent Ijeoma Ph.D.²**Abstract**

This study examined the exchange rate, consumption expenditure and economic growth in Nigeria from the periods of 1986 to 2023. The objectives of the study were to investigate the impact of exchange rate on economic growth and determine the impact of exchange rate on household consumption expenditure. The variables used in this study are growth rate of Gross Domestic Product, exchange rate, nominal interest rate, oil price, government debt and broad money supply, food price, and inflation inertia. The model used in this study is the Classical Linear Regression Model. The model was chosen because of its Best, Linear, Unbiased Estimator (BLUE). The results of the unit root test showed that all the variables were integrated of order one $I(1)$ except the growth rate of the Gross Domestic Product (GDPgr), Interest rate, broad money supply (M2) and exchange rate regime (DEXCHREG). Johansen co-integration test results using trace statistics and maximum Eigenvalue showed absence of co-integrating relationship among the variables used in the model. The key findings from the study showed a positive relationship between exchange rate and economic growth in the long-run. It was also found that exchange rate had a positive and significant impact on household consumption expenditure within the period under investigation.

Keywords: Exchange Rate, Economic Growth, Household Consumption Expenditure, Nigerian Economy, Gross Domestic Product Growth.

Cite: Ugwu, O. P. & Israel, G. I. (2026). Real Exchange Rate, Consumption Expenditure and Economic Growth in Nigeria. *International Journal of Accounting Research and Financial Insights*, 4 (3), 131-150. <https://doi.org/10.5281/zenodo.18672529>

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Introduction

Nigeria depends substantially on import with oil revenue serving as the pool of wealth for settling the trade balance in international market. For instance, many industries and households in the economy import their raw materials and finished goods for production and consumption respectively. This has made the

economy vulnerable to the volatility of exchange rate through its impact on aggregate consumption stemming from its implications on consumer prices of imports. The exchange rate of Naira to the Dollar and other major reserve currencies has deteriorated as a result of dwindling crude oil receipts due to both demand and supply factors. Concerns have been raised on the

implications of these developments on consumer prices⁵ which is a major determinant of domestic consumption, and how it affects the exchange rate (Mamman, 2017).

Trade among the global economies is feasible through exchange rate as a measuring tool for the value of goods and services. Exchange rate instability is seen as a common phenomenon, which has implications for domestic consumption through the prices of consumer goods and services. Changes in exchange rates have the probability of distorting the flow of goods and services among countries that enter into trade agreements. Besides, one of the central issues in international macroeconomics is the effect of high volatility of the real exchange rate on macroeconomic fundamentals (Tretvoll, 2018).

Pavlidis et al. (2017) argued that exchange rate, characterized by high volatility regimes such as the floating exchange rate regime is linked to (on average) large deviations from equilibrium which (in expectation) are quickly absorbed compared to small deviations as a result of nonlinear nature of the process. In the same view, economic agents react to the abrupt fluctuations in the real exchange rate differently, leading the economy to react differently to unexpected deviations. Despite this form of behaviour, a large body of literature that exist on the relationship between exchange rate and consumption depend on linear models (see Backus & Smith, 1993; Kollmann, 1995; Stockman & Tesar, 1995; Ravn, 2001; Chari et al., 2002; Selaive&Tuesta, 2003; Head et al., 2004; Choi, 2005; Benigno&Thoenissen, 2008;Tuesta, 2013). Empirical evidence on some economies have shown that the relationship could be nonlinear (Pavlidis et al., 2015 and 2017). The evidence suggests that relationship between consumption and exchange rate for countries with excessive intervention in the foreign exchange market yet experiencing exchange rate deviations is best explained by nonlinear models. In support of this, the studies of Pavlidis et al. (2015 and 2017) on nonlinear relationship and granger causality of real exchange rates and consumption basically tested the theoretical preposition of international real business cycle model on OECD (Organisation for Economic Cooperation and

Development) countries. However, the few studies that exist for Nigeria do not consider the nonlinear pattern of the relationship, and may have therefore missed out on fundamental aspects of the relationship between exchange rate and consumption (Aliyu, 2016).

A component of the factors driving inflationary pressure in Nigeria showed that high domestic food and imported food prices contributed about 0.54% and 0.197% to new inflationary pressure experienced in the period under review. Pro-government policies such as removal of fuel subsidy among others resulted in high transport, fuel, energy and the cost of other utilities. These components of consumer prices contributed 0.33% points to new price levels in the country (BudgiT, 2023). Meanwhile, inflation control is necessary for economic growth and development in an economy. Inflation concerns a persistent rise in prices of goods and services caused by several factors including food insecurity, high energy cost and fiscal dominance via uncontrolled government expenditure. Furthermore, the Central Bank of Nigeria (2016) explained inflation to be a sustained and rapid increase in the general price level measured by some broad indexes, such as consumer price index over a period, usually monthly or yearly. Inflation control is necessary for economic growth and development in an economy. Inflation concerns a persistent rise in prices of goods and services caused by several factors including food insecurity, high energy cost and fiscal dominance via uncontrolled government expenditure. Furthermore, the Central Bank of Nigeria (2016) explained inflation to be a sustained and rapid increase in the general price level measured by some broad indexes, such as consumer price index over a period, usually monthly or yearly. Inflation rate, which measures the rate of inflation monthly or annually is computed as a percentage change in consumer price index. In Nigeria, inflation rate is computed from the consumer price index on year-on-year, month-on-month and 12 moving average basis. The Central Bank of Nigeria (CBN, 2016) measures inflation on three categorized basis of headline inflation (all-items inflation), food inflation (farm produced and processed food) and core inflation (All-items less farm produce and energy). Inflation generally occurs when the average price level increases over time. This does not mean that all prices increase at

the same time, but those that increase outweigh those that decline. Some prices might increase a lot while others may increase a little, and still, others may decrease or remain unchanged. Inflation has some impacts on the domestic economy as it reduces the real value of money and impacts on the value of portfolio investments. For example, an investment return of 10% with inflation rate at 4% means that the effective real return on the portfolio is 6%. Again, inflation diminishes savings and therefore decreases the purchasing power and the standard of living of households. Inflation affects firms' profits by reacting on sales volume, by influencing the level of costs and by changing the relationship between costs and price. Although, signs of surging inflation often produce stock market downturns, inflation is not always bad.

There is no doubt that inflation is one of the macroeconomic fundamentals that alter exchange rate in an economy. Nigeria's annual inflation rate has been on the increase in Nigeria from 16.82% in April 2022, up from 15.92% the previous month driven by food and non-food prices. The annual core inflation, which excludes farm produce, accelerated for the seventh straight month to 17.8% in October, 2022, the highest since January, 2017, from 17.6% in the prior month (NBS, 2022). The National Bureau of Statistics reported further that on-a-month-on-month basis; the headline inflation rate for October 2022 was 1.24% implying a 0.11% lower rate than that recorded in September, 2022 and the percentage change in the average consumer price index (CPI) for the twelve month ending October, 2022 and the average of the CPI for the previous twelve months period was 17.86%, showing a 0.91% increase compared to the 16.96% recorded in October, 2021 (NBS, 2021). On the trend also and on year-on-year basis, in October 2022, the urban inflation rate was 21.63%, 5.11% higher when compared to the 16.52% recorded in October, 2021. Meanwhile, on month—on-month basis, the urban inflation rate was 1.33% in October 2022, this was a decline of 0.12% compared to September 2022. According to the NBS report, the rising inflation rate was caused by importation costs, high energy costs and surging food prices among others (NBS, 2022).

The inflation rate movement has been a significant macroeconomic indicator of grave concern for all economic agents in Nigeria and the world all over. Its adverse impacts are felt by all economic agents, creating a significant economic distortion. Inflationary pressures engender severe macroeconomic instability, arbitrary redistribution and misallocation of income, and a significant alteration in the economy's growth trajectory. At the household level, it devastates the purchasing power of the household and labour income, erodes the value of savings and investment, and increases poverty level. At the firm level, it promotes operating costs, erodes the profitability and competitiveness of producers and reduces the real return on investment, and disincentives capital accumulation. Similarly, rising inflation increases the cost of governance and investment in public goods at the government level, washing away the value of government earning and decimating the value of the domestic currency (NESG, 2024).

In Nigeria, the management of the exchange rate is vested in the Central Bank of Nigeria and since 1986 the Structural Adjustment Programme (SAP), exchange rate management has been a core macroeconomic policy function in the economy. The overriding objective has been to achieve a realistic and stable exchange rate consistent with internal and external balance (Mordi, 20006). Furthermore, to preserve the value of the domestic currency, maintain favourable external reserves and ensure the realization of price stability in the domestic economy. On a comparative purpose, while the advanced countries have followed a policy of managed-float, in which their exchange rate were determined largely by market forces, although with the central bank frequent intervention, in developing countries including Nigeria, their exchange rates are determined endogenously by market forces, the exchange rate has remained a policy instrument.

It has been argued that the exchange rate in Nigeria is overvalued, that is, the exchange rate is below the level determined by the forces of demand and supply. This has, in turn, generated hot debates around what the central exchange rate should be in the face of the multiple exchange rate regime. External agencies such

as the International Monetary Fund (IMF) and World Bank have called for unification of the and flexibility of the exchange rate regime in Nigeria.

From the background information, this study analyzed exchange rate, consumption and economic growth in Nigeria. The aim is to proffer some suggestions based on empirical validation on closing the precarious gap between exchange rate regimes and economic growth in Nigeria.

Statement of the Problem

In an ideal economic environment, monetary policy serves as a critical macroeconomic tool for promoting financial market stability, encouraging investment, and fostering sustainable economic growth. Through instruments such as interest rate adjustments, money supply control, and liquidity management, the Central Bank of Nigeria (CBN) is expected to create a conducive environment for efficient stock market operations. A well-coordinated monetary policy framework should enhance investor confidence, stabilize stock prices, improve market liquidity, and support the Nigerian Stock Exchange in mobilizing long-term capital for productive investments and economic development.

However, in Nigeria, the effectiveness of monetary policy in influencing stock market performance has remained uncertain and controversial. Frequent changes in monetary policy stance, rising interest rates, inflationary pressures, exchange rate instability, and inconsistent policy implementation have often coincided with volatility in stock prices, declining market capitalization, and reduced investor participation. Despite the strategic role of the stock market in economic development, empirical evidence suggests that monetary policy actions in Nigeria have not consistently translated into positive stock market outcomes, thereby raising concerns about policy transmission mechanisms and the responsiveness of the Nigerian stock market to monetary policy signals.

If this problem is not adequately addressed, the Nigerian stock market may continue to experience instability, low investor confidence, and reduced capacity to mobilize long-term funds for economic

growth. Persistent inefficiencies in the interaction between monetary policy and stock market performance could discourage both domestic and foreign investment, weaken capital formation, and limit the stock market's contribution to national development. Ultimately, failure to understand and address the impact of monetary policy on the Nigerian stock market may undermine broader macroeconomic objectives such as economic diversification, employment generation, and sustainable growth.

Research Questions

The research questions based on the statement of the problem are:

- i) What is the impact of exchange rate on economic growth in Nigeria?
- ii) What is the impact of exchange rate on Household Consumption behavior in Nigeria?

Research Objectives

The broad objective of this study is to examine the impact of the exchange rate on economic growth and on household consumption behavior in Nigeria. Specifically, this study intends to:

- i) Investigate the impact of exchange rate on economic growth in Nigeria.
- ii) Evaluate the impact of exchange rate on Household Consumption behavior in Nigeria

Research Hypotheses

The research hypotheses of this study are formulated as follows:

- H₀₁:** Exchange rate has no significant impact on economic growth in Nigeria.
- H₀₂:** Exchange rate has no significant impact on household consumption expenditure in Nigeria

Significance of the Study

This research is useful in providing additional value to the existing theoretical discussion on Exchange Rate, consumption expenditure and Economic Growth. The study came at a time where exchange rate, consumption expenditure and economic growth were the macroeconomic fundamentals that determine the welfare of people in Nigeria. It will be an inevitable discussion as it deals with a Less Developed country

where the general price level is determined by the level of exchange rate volatility.

The study will also be empirically useful to the existing work as it is based on secondary data generated in Nigeria, which provides real-world evidence in the country. The result will be based on the data and not purely on theory or hypothetical concepts. Therefore, the study's results can be applied to real-world situations and contribute to a practical understanding of the exchange rate, consumption expenditure and economic growth nexus in Nigeria

The study will further explain the usefulness to the policymakers on how exchange rate determine economic growth in Nigeria. This idea will enable policymakers formulate targeted policies that will effectively increase economic growth without affecting inflation and exchange rate in Nigeria.

Scope and Limitation of this Study

This study examined exchange rate, consumption expenditure and economic growth in Nigeria from 1986-2024. This period is chosen to enhance robustness of discussion in line with the objectives of the study. This study was anchored on the Mundell-Fleming and Inflation Targeting theoretical approaches. The variables of this study are exchange rate premium, nominal interest rate, and broad money supply, oil price proxy for energy, food price, government debt and consumption expenditure.

The limitation to this study is based on the irregularity found in the value of variables used and source from the Central Bank of Nigeria (CBN) and National Bureau of Statistics as the major data bank in Nigeria.

Review of Related Literature Review

Conceptual Review

Exchange Rate Regimes

An exchange rate is a relative price of one currency expressed in terms of another currency (or group of currencies). For economies like Nigeria that actively engage in international trade, the exchange rate is an important economic variable. Changes in it affect economic activity, inflation and the nation's balance of payments. There are many ways to measure an

exchange rate. The most common way is to measure a bilateral exchange rate. A bilateral exchange rate refers to the value of one currency relative to another. Bilateral exchange rates are typically quoted against the US dollar (USD), as it is the most traded currency globally.

The Central Bank defined exchange rate as the price of the unit of currency expressed in terms of other currencies. According to the Apex Bank, it is made up of two components: a domestic currency and a foreign currency (CBN, 2016). Ojo and Alege (2014) defined exchange rate as the domestic price of foreign money in relation to the domestic money. Hence it is the value of Nigerian Naira in relation to USA dollar or United Kingdom (U.K) pound. The above explanations on exchange rates are more or less theoretical. The explanations fail to capture the exchange rate regime which is different from fluctuations. Jongbo (2014) described the fluctuations in the exchange rates as periods of domestic currency appreciation or depression.

Economic growth

Economic growth is the process by which a country's economy expands the total production of goods and services over time, typically measured by increases in real gross domestic product (GDP) (Reserve Bank of Australia, 2026; McKinsey, 2022). Real GDP reflects the volume of goods and services produced, adjusted for inflation, and is widely regarded as the most accurate indicator of growth because it focuses on actual economic output rather than price changes (Reserve Bank of Australia, 2026; McKinsey, 2022).

In Nigeria, economic growth has shown periods of significant expansion and volatility due to structural factors such as oil dependence, fiscal policy, and infrastructure development. Recent data indicate that Nigeria achieved one of its fastest growth rates in a decade in 2024, expanding by about 4.6% year-on-year, driven by economic reforms such as subsidy removals and exchange rate adjustments (Reuters, 2025). However, high inflation and persistent structural challenges remain central concerns for sustaining long-term growth. (Reuters, 2025)

Household Consumption behavior

Household consumption behaviour refers to how families and individuals allocate their income toward spending on goods and services, and it is a major driver of aggregate demand and economic performance in any economy. Consumption decisions are influenced by factors such as income levels, inflation, exchange rates, population size, and savings behaviour (Olalere & Aladetanye, 2025). In Nigeria, recent research shows that inflation and exchange rate fluctuations significantly shape how households spend, as rising import costs and price levels erode purchasing power and reduce overall consumption expenditure (Ekeadah & Ogu, 2025).

Economic theory holds that as disposable income increases, household consumption tends to rise, although this relationship can be weakened by high inflation and uncertainty about future income (Economies, 2024). Macroeconomic conditions such as money supply growth can stimulate consumer spending by increasing liquidity, while currency depreciation can dampen consumption by making goods more expensive (Ekeadah & Ogu, 2025; Olaoye et al., 2025).

Theoretical Literature Review

Optimum Currency Area (OCA)

This theory was propounded by Robert Mundel in 1961 with the assumption that (i) high labour mobility exist throughout the area, (ii) capital mobility and price and wages are flexible, (iii) there's a fiscal mechanism to share risk across countries in the OCA. The theory states that the more open an economy, the more volatile her prices and wages are to changes in the nominal exchange rates. He therefore suggested that large economies should operate a flexible exchange rate system. However, Kenen (as cited in Sebastian, 2016) posited that there are tendencies that an external shock will bring about negative effect on the whole economy. The author suggested that a well-diversified economy should pursue a fixed exchange rate policy. Fixed exchange rate theory will reduce the fluctuations and uncertainties in the exchange rate and will promote economic growth, especially if the economy is diversified. The theory of optimum currency area was

quite insightful; however, one of the challenges of the Nigerian economy is the undiversified structure of the economy since the economy is a mono-economy.

Purchasing Power Parity (PPA): The purchasing power parity was propounded by Cassel in 1918. This is under the assumption of the absence of trade barriers and transport cost and similar goods in different countries. The theory states that if international arbitrage is possible, then one dollar will command the same purchasing power everywhere. Based on the law of one price, changes in the normal exchange rate are caused by changing prices only. The feasibility of this theory with regards to exchange rate analysis for Nigeria is in doubt therefore, we examine next a more applicable exchange rate theory for Nigeria, the Mundel-Fleming theory.

Empirical Literature Review

Bello and Aliyu (2019) examined inflation dynamic and exchange rate-pass through in Nigeria for the period 1995Q₁ to 2018Q₂ using the Smooth Transition Regression (STR) model. The variables used were consumer price index, aggregate import price, real marginal cost, and exchange rate. The empirical evidence revealed the existence of two inflation regimes during the period under review. Food inflation, energy inflation, firm's marginal cost, and imported inflation accounted for most of the changes in the prices of composite consumer's basket in low exchange rate regimes. Similarly, the results show that regime change in inflation is largely caused by exchange rate (transition variable) depreciation or devaluation of the naira. The study recommended that monetary policy response to low inflation regime must target the various components of the consumption basket while effort to curtail persistent high inflation must include a stable exchange rate of the naira. While the study employed the new Keynesian Philips curve approach (NKPC), the current study utilized the inflation targeting (IT) approach in the estimation exercise, thereby bridging the knowledge gap. The previous study used the STR while the current study used the Granger causality test. Falana (2019) investigated exchange rate regimes and real sector performance in Nigeria over the period 1961-2017. The variables used were aggregate output,

nominal exchange rate, inflation rate, prime lending rate, net export, credit to the private sector and government capital expenditure. The autoregressive distributed lag model approach was utilized. The results show that a long-term inverse and significant relationship exists between exchange rate and aggregate real output in regulated exchange rate regime but a long-term direct and significant relationship in the guided deregulated regime. The study recommended that the monetary authority should implement coordinated macroeconomic policies that would attract foreign private investment, that would impact inflation positively and stimulate exchange rate stability. The study lacked information on exchange rate regime, the focus of the study as the regimes were in no way reflected in the empirical validation, a major flaw of the study. Again, the use of credit to the private sector as proxy for real sector performance is questionable. The real sector performance could have been proxy by total factor productivity (TFP) or manufacturing output or agricultural output.

Jibru (2019) examined the determinants of exchange rate fluctuation in Nigeria: Evidence from sticky-price monetary policy from 2016Q1 to 2017 Q1. The Autoregressive Integrated Moving (ARIMA) regression technique. The variables include exchange rate, money supply, interest, rate, inflation and productivity. The findings indicate that interest rate and levels of inflation significantly and positively impacted on the exchange rate fluctuations in Nigeria. Money supply has an insignificant negative effect on the fluctuations of exchange rate, and productivity has an insignificant positive effect on the exchange rate fluctuation. The study used quarterly data and ARIMA process.

Ogbonna and Ejem (2019) investigated exchange rate management and regimes: Quo Vadis Nigeria between 2002 and 2017. The study used the autoregressive distributed lag model using monthly data. The variables of the study include the nominal effective exchange rate, inflation rate, interbank call rate, prime lending rate and all share index. The results for the Dutch Auction system show little evidence of a negative short-run relationship between stock prices, interbank rate and nominal effective exchange rate. The study

concludes that the choice of exchange rate regime matters for macroeconomic performance in Nigeria and that the closure of the Dutch Auction system by the monetary authorities significantly altered the relationship between nominal exchange rate and macroeconomic variables. The study focused on the relationship as against the driving forces between exchange rate management, regimes and the macroeconomic variables.

Bello and Rafindadi (2019) examined exchange rate past through and inflation dynamics in Nigeria: Evidence from augmented nonlinear new Keynesian Philips curve. The variables are food inflation, energy inflation, firm's marginal cost, and imported inflation between 1995Q1 to 2018Q2, using the smooth transition regression. The study showed that the speed of regime switch was found to be significantly high at about 70% per quarter. Furthermore, the study showed that the threshold in exchange rate devaluation/depreciation that triggers a regime switch from low to high inflation regime is about N75 relative to a dollar. The study adopted the New Keynesian Philips curve that fails to predict inflation appropriately.

Eze and Dumani (2020) studied the interactions between foreign exchange rate and consumer price changes in the Nigerian economy covering 1990 to 2018. The error correction approach was adopted. The study showed that foreign exchange rate exerts a positive and insignificant influence on the level of inflation in Nigeria. The study concludes that persistent increase in foreign exchange rate stimulate increase in the general price level, whilst that the lending rate has no bearing on the general price level in Nigeria. While the study used exchange rate, inflation rate and lending rate, fiscal policy instrument was ignored, marking less emphasizes on the relationship fiscal policy, monetary and exchange rate.

Babangida et al., (2021) analyses the relationship between real exchange rate and domestic consumption in Nigeria using the Smooth Transition Autoregressive (STAR) model from 1981Q1 to 2019Q4. The results of the paper showed that domestic consumption determines the regime shift in real exchange rate,

suggesting a nonlinear linkage with clearly distinct regimes. The lagged exchange rate is shown to have a significant linear effect on the current exchange rate. On the other hand, current foreign consumption is positive but has no significant impact on the exchange rate in the linear part of the model. In the nonlinear part of the model, evidence of a significant negative relationship between real exchange rate and domestic consumption is found, thus, supporting the proposition of the standard international business cycle model. In addition, the study finds evidence of bi-directional nonlinear granger causality between real exchange rate and domestic consumption. The study concludes that the relationship between real exchange rate and domestic consumption was nonlinear within the period under investigation. The paper recommended that fiscal and monetary authorities should aim at policies that would stimulate domestic consumption below the threshold level necessary to keep the exchange rate stable

Ani and Udeh (2021) examined the effect of exchange rate on the economic growth of Nigeria between 2009 to 2018. The variables used are exchange rate, gross domestic product, gross natural product and unemployment. The study employed the Ordinary Least Square (OLS). The study showed that while exchange rate had significant effect on GDP and GNP, it was non-significant on unemployment. The study concludes that exchange rate should be handled with utmost concern by the monetary authority to avoid unnecessary fluctuations that many inflict unbearable economic consequences on the Nigerian people. The study focused on economic growth unlike the current study on inflation dynamic which has more direct impact with the Nigerian people.

Uche and Nwamiri (2021) explored the dynamic relationship between exchange rate movement and macroeconomic fundamentals between 2000M1-2018M12. The variables used are exchange rate, output growth and productivity growth. The study used the non-linear autoregressive distributed lag model. The study used monthly time series data and showed an asymmetric pass-through from exchange rate to productivity, while exchange rate depreciation led to

output retardation in the short-run, but neither appreciation nor depreciation of the exchange rate depreciation of the local currency does not improve the country's productivity. The study focused on exchange rate movement and macroeconomic fundamental; the current study focused on exchange rate policy regimes different from exchange rate movement.

Lawal, Bakare, Saka and Anaghionyeodiwe (2021) examined exchange rate regimes and macroeconomic performance in Nigeria between 1970 and 2020 using the ARDL approach. The variables used are exchange rate, human capital, government spending, inflation rate, and trade openness. The study showed that compared to floating exchange rate regimes have the potential of causing declining inflation. Granger causality between exchange rate regimes and exchange rate regimes was not considered.

Knowledge Gap

There are many works on exchange rate and economic growth or exchange rate and household consumption behaviour in the existing literature. Some of the previous studies were on country specific while others were in panel studies. Identified gaps were based on the methodology and the inability of the previous work to analyse exchange rate, household consumption and economic growth simultaneously.

Secondly, majority of the previous studies ignored the official and parallel exchange rate windows. Therefore, this study used the exchange rate premium to measure both the official and unofficial exchange rates. This study further included energy cost and food prices as the practical drivers of inflation which previous studies could not handle.

Methodology

Research Design

This is the cause-and-effect research design, the ex-post facto research approach. The objective of this study was principally to examine the impact of exchange rate regimes on inflation dynamics in Nigeria between the periods 1986 to 2021. The ex-post facto is in line with the topic of this study.

Theoretical Framework

The theoretical frameworks of this study are the Mundel-Fleming and relative income hypothesis. The choice of this framework is based on the fact that the frameworks are related to the focus and applicability to this study. The CBN then adjust instruments such as the reserve ratio, liquidity ratio, open market operation, monetary policy rate and exchange rate liquidity to tailor the actual inflation rate towards the target. Moreover, inflation targeting strategy entails building public confidence and integrity in the monetary authority's capacity to curtail inflation by transparently and accountably managing monetary activities and providing clarity on policy actions.

Under fixed capital rates and perfect capital mobility, a country can't move out of line with those prevailing in the world market. Any attempt at independent monetary policy leads to capital flows and need to intervene until interest rates are back in line with those in the world market. With perfect mobility of capital, under fixed exchange rate regime, monetary policy both expansionary and contrary in a small open economy is quite ineffective to influence the level of national income. The Mundel-Fleming model also known as the ISLM-BOP model is an economic model which describes the workings of a small economy (Nigeria) open to international trade in goods and financial assets, and provides a framework for monetary (inflation dynamic) policy analysis. One of the basic assumptions of the model is fixed price level. The model is given as:

$$Y = C(Y - T) + I(r^*) + G + NX(e) \quad (3.1)$$

Where Y = output; C = Consumption; Y = income; T = tax; I = Investment, r^* = World interest rate; G = Government expenditure; NX = Net export and e = exchange rate. Economic policy depends on the exchange rate system of Nigeria whether fixed, floating or managed float.

Inflation targeting is a monetary policy framework where the Nigerian Central Bank follows an explicit target for the inflation rate for the medium-term. The assumption is that the best that monetary policy authorities can do to support long-term growth of the economy is to maintain price stability, and price stability is achieved by controlling inflation and maintain a stable exchange rate.

Preliminary Tests

Descriptive (Summary) Statistics

In order to examine the features of the data used in any study (or to gain a more precise idea of the distribution of the variables), a first test of the data in form of descriptive statistics is usually carried out. The statistics are the mean, which measures the average value of the series; the maximum and minimum values of the series; standard deviation (std. Dev.) which measure the spread in the series: Skewness which measures the asymmetry of the distribution of the series around its mean and the kurtosis, which measures the flatness of the distribution of the series are other statistics. Jarque-Bera, which is a test for nominal distribution tests for the null hypothesis of the series. The three conventional levels of statistical significance are 1percent (0.01), 5 percent (0.05) and 10 percent (0.10). If the computed probability value for the test is greater than any of the three statistical significance, we do not reject the null hypothesis otherwise, we reject it (Ezie, 2022).

Correlation Analysis

This preliminary test is used to describe the strength and direction of the linear relationship between two or more variables. Correlation, like covariance measures the degree to which any two variables vary together.

Unit Root Test

It is assumed under multiple regression analysis that all the series are stationary at level (that is, the order of integration of each of the series is zero, $I(0)$). The unit root test is used to determine the stationarity or non-stationarity of a given time series.

The variables in this study were tested for unit root using the Augmented Dickey Fuller (ADF) and Philips-Perron (PP) approaches. The stationarity conditions of the variables are important to avoid the problem of spurious results due to explosive data (Babangida&Asan-UI, 2021). The ADF test is an extension of the Dickey-Fuller test by allowing a higher order of autoregressive process, such that:

$$\Delta X_t = \alpha_0 + \alpha_1 X_{t-1} + \alpha_2 t + \sum_{i=2}^p b_i \Delta X_{t-i} + U_t \quad (3.2)$$

Where P is the number of lagged changes in X_t necessary to make U_t serially uncorrelated. Testing the null

hypothesis $H_0: \alpha_1 = 0$ against the $H_a: \alpha_1 < 0$, the null of unit root is rejected if the observed t-statistic is sufficiently negative compared to the critical value given at the accepted level of significance.

The Model

The model for this study is the famous Classical Linear Regression Model because of its BLUE properties. It specifies the relationship between the dependent variable inflation and the major explanatory variables. The model will first be stated in its functional, mathematical and econometric form

Model Specification

The model of this study is specified following the theoretical frameworks-Mundel-Fleming and the relative income hypothesis models and the empirical works of Okoliet *al* (2016) with plausible modifications and adjustments in order to achieve the set objectives of this study. The model of this study in its functional form is thus specified:

$$GDP_{gr} = f(EXCH, INTR, OILPRICE, M_2, GOVDBT, FOODPRICE, INFL_1, DEXCH-REG).....(3.4)$$

Where:

- RGDPgr = Growth of the Real Gross Domestic Product
- EXCH = exchange rate premium
- INTR = nominal interest rate
- OILP = oil price proxy for energy prices
- M2 = broad money supply, measure for money growth
- GOVDEBT = government debt
- FOODPRICE = food price,
- INFL_1 = the inflation inertia.

Equation (3.4) was transformed to statistical form in order to obtain individual effect of each driver as shown in equation 3.5.

$$INFL_1 = \alpha + \beta_1 EXCHRP + \beta_2 INTR + \beta_3 OILPRICE + \beta_4 M_2 / GDP + \beta_4 GOVDBT + \beta_5 FOODPRICE + DEXCH-REG(3.5)$$

Equation (3.5) was specified in its /econometric form as:
 $RGDP_{gr} = \alpha + \beta_1 EXCHRP + \beta_2 INTR + \beta_3 OILPRICE + \beta_4 M_2 / GDP + \beta_4 GOVDBT + \beta_5 FOODPRICE + \beta_6 INFL_1 + \beta_7 DEXCH-REG + U_i$
(3.6)

Variable Description and Justification

Inflation Intertia (INFR_{t-1})

Inflation is inertia because of the way people form expectations. It is plausible to assume that people’s

expectations of inflations depend on recently observed inflation. These expectations then influence the wages and prices that people set (Woodford, 2002; Erleg& Levine, 2003).

Exchange Rate Premium (EXCH)

The exchange rate premium measures the spread between the recognized official market exchange rate and the Bureaux de Change (BDC) rate. The exchangerate premium can also be measured by the differential between the official and inter-bank market exchange rates. The exchange rate premium is not expected to go beyond 5 percent for the foreign exchange market to be considered stable (CBN, 2016; Kallianiotis, 2016).

Nominal Interest Rate (TNTR)

Generally, lower interest rate means people can afford to borrow more money, so have more money to spend. This makes the economy grow and inflation increase. In short, inflation is one of the indicators used to measure economic growth, which can be controlled by interest rate, which in turn affect inflation. As the economy grows with inflation, the purchasing power of each dollar declines over time (Awomuse&Alimi, 2012). The relationship between nominal interest and inflation rate is summarized by the Fisher hypothesis, which has important implications for monetary policy and Central Banking decision-making (Laatsch&Klien, 2002; Fahmy&Kandi2003; Akinlo, 2011).

Oil Price (OIL_PRICE)

The price at which the crude oil is sold at the international market influences the domestic economy. The oil price-inflation nexus has generated substantial discussion in academic, business and policy circles. Adebayo (2020) suggested a positive co-movement between the inflation and oil price between 2014 M₂ and 2017M₁ and a unidirectional causality running from oil price to inflation. Oil is a major decider of the cost of production. If the oil price increases, it will increase the transportation cost, thereby increasing the cost of goods and services. The relationship between oil price and inflation is ambiguous-negative and positive relationship.

Broad Money Supply (M₂)

The stock of money in an economy includes currency in circulation, demand deposit, savings and fixed deposit as well as other assets that are in spendable forms. It is a broad definition of money supply that depends on the jurisdiction (CBN, 2016). Indalmanie showed a feedback effect between inflation and narrow money; a unidirectional causation running from inflation to quasi and broad money.

Government Debt (GOVDEBT)

This refers to the financial obligations of a government as a percentage of the market value of aggregate output produced in the country. An increase in the price level directly reduces the real value of government debt, as well as the ratio of debt to GDP. Holding other things constantly higher prices increase nominal GDP. Nguyen

(2015) showed that public debt has a significantly positive effect on inflation, while in the opposite direction as inflation has a significantly negative effect on public debt.

Food Price (FOOD_PRICE)

Food prices refer to the average price of a particular food commodities globally and across countries. The price of goods not only provides an important indicator of the balance between agricultural production and market demand but also has strong impacts on food affordability and income. Egwuma, Ojeleye and Adeola (2017) showed that real GDP, food import and crude oil price were positively related to food price inflation in the long-run. However, real GDP and food import were the key determinants of food price inflation.

Exchange Rate Regime (DEXCH_REG)

This refers to the exchange rate policies in Nigeria from 1999 to date. The various policies are presented in Table 3.1

Table 3.1: Exchange Rate Regimes/Policies in Nigeria (1999-2021)

Reintroduction of IFEM	October, 1999
Retail Dutch Auction System (rDAS)	July, 2002
Wholesale Dutch Auction System (WDAS)	February 2006-October, 2013
Retail Dutch Auction System (rDAS)	October 2-31, 2013
Interbank Foreign Exchange Market (with CBN Intervention)	November, 2013
CBN discontinues sales of Forex to BDCs	July, 2021
Nigerian Autonomous Foreign Exchange Rate (NAFEX)	April, 2017

Source: Researchers' Compilation (2023)

Method of Estimation

This section describes the procedures for econometric estimation of the model in the previous section. Justification of the time series estimation procedure is a necessary first step, since most macroeconomic time series data tend to be non-stationary (with moving means and trend). The Ordinary Least Square (OLS) was used as a method of estimation because of its Best, Linear, Unbiased Estimate (BLUE) properties.

The study further applied traditional Granger causality tests developed by Engle and Granger (1987) and Johansen and Juselius (1990). However, the reliability of these tests were s constrained by their sensitivity to the values of trend and constant terms, (Karimo & Ogbonna, 2017).

Post Estimation Diagnostics

In order to ensure the reliability and validity of the results obtained from the empirical analysis, three diagnostic tests were carried out to check for the problem of stability, heteroskedasticity and serial correlation. For the stability test none of the roots lie outside the unit circle. Again, to verify whether this study is confronted with the problem of heteroscedasticity and serial correlation, the VAR heteroscedasticity and serial correlation, the VAR heteroscedasticity and the Breusch-Godfrey serial correlation LM test were employed. The F-statistic calculated, and their P-values must be greater than the critical values at 5 percent level of significance.

Sources of Data

Table 3.2: Sources of Data

Variables	Definition and Measurement	Sources
Inflation	Dependent variable, proxy, consumer price index (CPI)	Central Bank of Nigeria (CBN)
Inflation _{t-1}	Inflation inertia-proxy, consumer price-index-one	Calculated from CBN
EXCH	Exchange rate premium-different between official source and Bureau De charge	CBN
Nominal Exchange rate	% change in er + ($\pi * - \pi$), domestic inflation and π , foreign country's inflation rate	CBN
Oil PRICE	Oil price, proxy for energy cost	International Energy Agency
M ₂	Broad money supply-proxy for financial deepening	CBN
GOVDEBT	Food price proxy food inflation	CBN
DEXCH-REGIME	Dummy variable for exchange rate regimes	Authors' construct

Source: Researchers' Compilation.

Econometric Software

The software used for the estimation was Econometric View version Twelve (12) – EView 12. EView software is an Innovation Solution for Econometric Analysis, Forecasting and Simulation.

Presentation and Interpretation of Results

This chapter presents the results, the interpretation and analysis in line with the objectives of the study. To achieve the aim of this section, the outline includes the result presentation, interpretation and analysis, the hypotheses testing, the discussion of findings and the policy implication of the empirical results.

Descriptive Statistics

Descriptive statistics were estimated to determine the distribution of the data used. The result was presented in table 4.1

Table 4.1: Result of Descriptive Statistics

	GDPGR	EXCH	HCE	INTR	OIL_PRICE	M2	GOVDEBT	FOODPRICE	INFL_1	DEXCHREG
Mean	4.187923	128.4535	29139.68	18.85630	40.87088	8.47E+12	6702.909	89.86398	18.90940	0.405405
Median	4.212993	125.8081	27914.78	18.32000	24.35000	1.56E+12	3995.634	91.49000	12.22000	0.000000
Maximum	15.32916	365.2849	71823.28	29.80000	113.7575	3.86E+13	23875.19	156.1230	72.84000	1.000000
Minimum	-2.035120	1.754523	9162.607	10.50000	14.28000	4.673529	295.3277	36.78000	5.390000	0.000000
Std. Dev.	3.905421	112.4074	16128.71	3.866311	32.18936	1.18E+13	7559.119	30.19810	17.50997	0.497743
Skewness	0.490561	0.743331	0.537242	0.565697	1.271434	1.237537	1.260794	0.037017	1.786852	0.385337
Kurtosis	3.363345	2.578758	2.603578	3.801381	3.129591	3.194436	3.215134	2.303933	4.858985	1.148485
Jarque-Bera	1.641933	3.680897	2.076807	2.963490	9.994589	9.502519	9.873901	0.755403	25.01692	6.200657
Probability	0.440006	0.158746	0.354019	0.227241	0.006756	0.008641	0.007176	0.685435	0.000004	0.045034
Sum	150.7652	4752.778	1107308.	697.6832	1512.223	3.13E+14	248007.6	3324.967	699.6478	15.00000
Sum Sq. Dev.	533.8310	454875.6	9.63E+09	538.1411	37301.58	4.97E+27	2.06E+09	32829.31	11037.57	8.918919
Observations	37	37	38	37	37	37	37	37	37	37

Source: Authors' computation using EView 12.

Table 4.1 of the descriptive statistics of the variables showed the result in term of characteristics of the variables. The result indicated that the mean of the growth of the Gross Domestic Product (GDPgr) was 4.1879 while household consumption expenditure had 29139.6. The highest mean was recorded by money supply, M2, which was 84700000000. Exchange rate premium had an average of N128.45k to 1 dollar, while nominal interest rate and inflation inertia had 18.856% and 18.909% respectively. The exchange rate regimes had an average of 0.405 while food inflation was 89.86398.

The results show that all the variables were positively skewed to the right of the normal distribution of the variables. The skewness ranges from 0.037 to 1.79. The kurtosis showed that exchange rate, household consumption expenditure, food price and exchange rate

regime had kurtosis value of less than 3 and no variable recorded up to 4 except inflation inertia (INFL-1). In this case inflation inertia is said to be leptokurtic, which implies excess kurtosis, which is the tail of the distribution of inflation inertia relative to the normal distribution. The rest of the variables range between 1.148485 to 3.801382, which implies that they are platykurtic with low kurtosis and mesokurtic (medium tails).

The Jarque-Bera statistic showed that the growth of the GDP, exchange rate, household consumption expenditure, interest rate and food price were normally distributed as their Jarque-Bera p-values were individually greater than 0.05. On the other hand, money supply, government debt, inflation inertia and exchange rate regime were not normally distributed as none was equal or greater than 0.05.

Correlation Matrix

To further ensure the reliability of the data set, the correlation matrix results were presented in Table 4.2.

Table 4.2: Result of Correlation Matrix

	GDPGR	EXCH	HCE	INTR	OIL_PRICE	M2	GOVDEBT	FOODPRICE	INFL_1	DEXCHREG
GDPGR	1.000000	-0.088156	0.071369	0.145458	0.342421	-0.238874	-0.211744	0.017409	-0.149358	-0.155894
EXCH	-0.088156	1.000000	0.915912	-0.061096	0.207218	0.794320	0.954502	0.920169	-0.403907	0.036705
HCE	0.071369	0.915912	1.000000	-0.224351	0.537067	0.788467	0.816198	0.947781	-0.436818	0.010775
INTR	0.145458	-0.061096	-0.224351	1.000000	-0.428035	-0.159304	0.008235	-0.179815	0.369597	-0.134606
OIL_PRICE	0.342421	0.207218	0.537067	-0.428035	1.000000	0.299258	0.031429	0.441265	-0.305139	-0.011525
M2	-0.238874	0.794320	0.788467	-0.159304	0.299258	1.000000	0.809786	0.720845	-0.308548	0.124868
GOVDEBT	-0.211744	0.954502	0.816198	0.008235	0.031429	0.809786	1.000000	0.825851	-0.309401	0.002775
FOODPRICE	0.017409	0.920169	0.947781	-0.179815	0.441265	0.720845	0.825851	1.000000	-0.386008	-0.089271
INFL_1	-0.149358	-0.403907	-0.436818	0.369597	-0.305139	-0.308548	-0.309401	-0.386008	1.000000	-0.031557
DEXCHREG	-0.155894	0.036705	0.010775	-0.134606	-0.011525	0.124868	0.002775	-0.089271	-0.031557	1.000000

Source: Authors' Computation using EView 12

The results of the correlation matrix showed absence of multicollinearity among the variables used as none of the elements in the triangular matrix was equal or greater than 0.8 except exchange rate and government debt and exchange rate and food prices and household expenditure and food prices.

Exchange rate indicated a high relationship with government debt and food price with values of 0.95 and 0.92 respectively. This indicated that exchange rate premium was highly correlated with government debt

and food prices. Household consumption was only correlated with food price by having 0.947.

UNIT ROOT RESULTS

The unit root test was carried out to find if the variables were stationary or not. The essence of stationarity was for the mean and the variance of the data to be constant to help the predictability of the model. Table 4.3 showed the Augmented Dickey Fuller (ADF) test for all the time series data used in the work.

Table 4.3: Unit Root Result using Augmented Dickey Fuller (ADF)

Variable	At level			First Diff			I(d)
	ADF stat	5% critical value	Prob	ADF stat	5% critical value	Prob	
GDPgr	-3.984849	-2.948	0.000	-	-	-	I(0)
EXCH	1.156727	-2.948	0.997	4.685854	-2.945	0.0006	I(1)
HSC	1.215858	-2.948	0.9977	-6.889244	-2.945	0.000	I(1)
INTR	-4.43832	-2.948	0.0012	-			I(0)
OIL_PRICE	-1.41176	-2.948	0.5657	-5.27873	-2.945	0.0001	I(1)
M2	-3.16522	-2.948	0.0323				I(0)
GOVDEBT	0.430452	-2.948	0.9815	-3.464782	-2.945	0.0152	I(1)
FOODPRICE	0.494067	-2.948	0.9841	-8.026654	-2.945	0.000	I(1)
INFL_1	-2.375661	-2.948	0.1570	-4.70506	-2.945	0.0008	I(1)
DEXCHREG	-5.553681	-2.948	0.0001				I(0)

Source: Authors' Computation using EView 12

Table 4.3 showed that all variables were integrated of order one, I(1), except the growth of GDP, interest rate, money supply and exchange rate regime which were integrated at level form. The variables that were not integrated at level form were different once before becoming stationary at the 5% significance level.

Co-integration Test

The result of the Johansen co-integration test was presented with the aid of Table 4.4.

Table 4.4: Johansen Co-integration Tests

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None	0.240579	210.2261	239.2354	0.4564
At most 1	0.215374	169.7719	197.3709	0.4873
At most 2	0.193349	134.1172	159.5297	0.5038
At most 3	0.166408	102.5323	125.6154	0.5213
At most 4	0.150849	75.77661	95.75366	0.5147
At most 5	0.131208	51.73944	69.81889	0.5610
At most 6	0.090298	31.06368	47.85613	0.6631
At most 7	0.079437	17.15190	29.79707	0.6288
At most 8	0.030574	4.984754	15.49471	0.8104
At most 9	0.002855	0.420237	3.841466	0.5168

Trace test indicates no cointegration at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Source: Authors' Computation using EView 12.

From the results presented in Table 4.4, there was no evidence of cointegration as displayed by the Eigenvalue and Trace statistic. All the P-values were individually greater than 0.05. The table showed that using the Trace

statistic and Max-Eigen value test, there was no long run relationship within the period under investigation.

The Result of the GDPgrModel

The result of the OLS multiple regression model was presented with the aid of table 4.5 in order to trace the impact of exchange rate on economic growth in Nigeria.

Table 4.5: The result of the GDPgrregression model

Variable	Coefficient	Std Error	t-statistic	P-Value
C	-1.102306	2.415362	-0.456373	0.6488
EXCH	0.023592	0.014150	1.667260	0.0977
HCE	0.000164	7.50E-05	2.184254	0.0306
INTR	0.365034	0.076918	4.745751	0.0000
OIL_PRICE	0.041602	0.016722	2.487893	0.0140
M2	-1.09E-13	3.56E-14	-3.069051	0.0026
GOVDEBT	-0.000401	0.000163	-2.458889	0.0151
FOODPRICE	-0.067589	0.035471	-1.905473	0.0587
INFL_1	-0.040647	0.017532	-2.318451	0.0219
DEXCHREG	-1.242439	0.549167	-2.262405	0.0252

Source: Author’s computation using Eview

The result of the regression model showed that economic growth was -1.102306 when the impact of all the explanatory variables were assumed statistically equal to zero. The result further showed positive relationship between economic growth GDP and exchange rate, Household consumption expenditure, interest rate and oil price while all other variables have negative relationship within the period under investigation. The exchange rate was found to have insignificant effect on economic growth with t-statistic of 1.66726 and P-value of 0.0977. This means that an increase in exchange rate brings about 0.023592 change in economic growth, holding other things affecting economic growth constant.

Household consumption expenditure had positive and significant impact on economic growth with coefficient of 0.000164 and P-value of 0.0306. An increase in household consumption brought about 0.016% change in economic growth in Nigeria. Interest rate and oil price had positive and significant impact on economic growth in Nigeria with coefficients of 0.365034 and 0.041502 respectively. Interest rate was found to be one of the

major drivers of the economy with t-statistic of 4.7457 and P-value of 0.0000. The result further pointed out that oil price is a significant factor in determining the behavior of the Nigerian economy with t-statistic of 2.487893 and P-value of 0.014.

Other variables that created significant impact on economic growth in Nigeria were money supply (M2), government debt (GOVDEBT), inflation inertia and exchange rate regime. An increase in money supply brought about 0.000000000109% decrease in economic growth with t-statistic of -3.069051 and P-value of 0.0026. A change in government debt brought about 0.04% decrease in economic growth with t-statistics of -2.458889 and P-value of 0.0151. Inflation rate and exchange rate regime had coefficients of -0.040647 and -1.242439 respectively. The significance of inflation rate and exchange rate regime were evidenced in their t-statistics being individually greater than 2 and their P-values also being less than 0.05. It was further pointed out by the result that food price had no significant impact on economic growth based on its t-

statistics being less than 2 in absolute value (-1.905473) and P-value being greater than 0.05.

The Result of the Household Consumption Model

The impact of exchange rate on household consumption was estimate and the result is shown in table 4.6

Table 4.6: The result of the Household consumption function

Variable	Coefficient	Std Error	t-statistic	P-Value
GDPGR	206.1265	90.98821	2.265420	0.0250
EXCH	40.52255	13.63791	2.971317	0.0035
INTR	-155.9262	64.58012	-2.414461	0.0170
OIL_PRICE	121.2938	15.86348	7.646103	0.0000
M2	-1.34E-10	3.68E-11	-3.651696	0.0004
GOVDEBT	0.708096	0.174259	4.063472	0.0001
FOODPRICE	173.4842	23.74042	7.307545	0.0000
INFL_1	8.521941	19.31155	0.441287	0.6597
DEXCHREG	2011.806	542.0884	3.711214	0.0003

Source: Author's computation using Eview 12

The result of the long run consumption function showed that household consumption expenditure was positively and significantly influenced by the growth rate of the Gross Domestic Product (GDPgr), Exchange Rate (EXCH), Oil Price (OIL_Price), Government Debt (GOVDEBT), Food Price (FOODPRICE), Inflation Dynamic (INFL_1) and Exchange Rate Regime (DEXCHREG). An increase in the growth rate of the Gross Domestic Product (GDPgr), Exchange Rate (EXCH), Oil Price (OIL_Price), Government Debt (GOVDEBT), Food Price (FOODPRICE), Inflation Dynamic (INFL_1) and Exchange Rate Regime (DEXCHREG) increased consumption expenditure by 206.1265, 40.52, 121.29, 0.708, 173.48, 8.52 and 2011.806 respectively. The result showed that only interest rate and money supply had significant negative relationship with household consumption expenditure with P-values of 0.017 and 0.0004 respectively. In sum, all the variables used in the model had significant impact on household consumption except inflation dynamic which had P-value of 0.6597.

Test of Research Hypotheses

The research hypotheses were evaluated based on the regression results. Each of the hypothesis was tested for the purpose of being rejected.

Ho₁: Exchange rate has no significant impact on economic growth in Nigeria.

Decision Rule: Accept the null hypothesis if P-value of exchange rate is greater than 5% level of significance, otherwise reject and accept alternative.

The result of the regression showed that exchange rate positively affected economic growth by 0.023592 but was statistically insignificant since its p-value was 0.0977. Based on this the null hypothesis was accepted and the alternative was rejected.

Ho₂: Exchange rate has no significant impact household consumption in Nigeria

Decision Rule: Accept the null hypothesis if P-value of exchange rate is greater than 5% level of significance, otherwise reject and accept alternative.

The result of the household consumption model showed shows that exchange rate positively affected household consumption by 40.52255 and was statistically significant since its p-value was 0.0035. Based on this the null hypothesis was rejected and the alternative was accepted.

Discussion of Findings

The findings of this study were discussed in line with the objectives of this study, in relation to similar findings and contemporary development in the Nigerian economy. The first objective is to examine the impact of exchange rate on economic growth in Nigeria. From the empirical results presented, exchange rate had a positive relationship with economic growth, such that a unit changes in exchange rate led to 2.4 percent increase in economic growth over the period under review.

Furthermore, from the results presented oil price, proxy for energy price had a positive relationship with economic growth. This implies that as oil price increases by 1 percent, inflation increase by 4.16%. This was in line with Choic, *et al* (2017). Specifically, oil price is expected to increase economic growth as Nigeria is a producer of oil and oil dependent nation.

From the results presented, food price had a negative impact on economic growth in line with the a-priori expectation. A unit change in food prices led to 6.8% decrease in economic growth. Furthermore,

government debt had a negative relationship with economic growth in the period under review such that a unit change in government debt decreased economic growth by 0.04%. This is not in line with the a-priori expectation and may be attribute to high level of governance decay and corruption among those responsible for managing the economy. The association between public dent and economic growth was substantiated by Talknice and Odhiambo (2021) who concluded that there are alternative channels through which rising public debt stocks may directly build up inflationary pressures in the economy (Lawal et al., 2018; Zangari, Caiumi&Hemmelgan, 2017).

The second objective was to determine the impact of exchange rate on household consumption in Nigeria. The result of the long run household consumption function showed that exchange rate had positive and significant impact on household consumption in Nigeria. This may be based on the fact that Nigeria is an import dependent nation and any alteration in exchange rate will alter consumption behavior of the household.

Summary, Conclusion and Policy Recommendations

Summary of Findings

This chapter presents the summary of this study in line with the set-out objectives, the conclusion of this study and the policy recommendations. The four main objectives of this study were: to examine the impact of exchange on economic growth, to determine the impact of exchange rate on household consumption, to analyze the long-run relationship between exchange rate and economic growth and to explore the causality between exchange rate and household consumption in Nigeria. The empirical results showed that:

- i) Exchange rate had a positive impact on economic growth such that a unit change in exchange rate led to 2.4% increase in economic growth. The exchange rate was found to have insignificant effect on economic growth with t-statistic of 1.66726 and P-value of 0.0977 within the period under investigation. The results show that oil price had a positive and significant impact on economic growth in Nigeria. An increase in oil price led to 0.041602

increase in economic growth. Food prices had a negative and significant impact on economic growth, as such a unit change in food prices led to 0.067589 of economic growth.

- ii) The result of the co-integration test showed absence of co-integrating relationship among the series in the model using the Trace statistics and the Max-Eigen value. Th during the investigation.is was the base for the adoption of the classical linear regression model instead of the error correction model

Conclusion

The study was based on the impact of exchange rate on economic growth in Nigeria from 1986 to 2023. The first objective is to examine the impact of exchange rate on economic growth in Nigeria. From the empirical results, it was concluded that exchange rate had a positive and significant impact on economic growth in Nigeria.

The second objective of this study was to determine the impact of exchange rate on household consumption in Nigeria. The result of the consumption function confirms that exchange rate had significant impact on household consumption expenditure in Nigeria.

Policy Recommendations

In line with the policy implication of findings, the following recommendations are suggested to improve the management of exchange with respect to economic growth and household consumption expenditure.

- i). Since exchange rate had a positive relationship with economic growth such that a unit change in exchange rate premium lead to 2.4% increase in economic growth rate. This study recommends a flexible exchange rate system that adjusts with global macroeconomic conditions to attain higher economic growth.
- (ii) The result of the regression model further showed that exchange rate had a significant impact on household consumption. Therefore, this study recommends the need for diversification in order to minimize the country's dependence on imported commodities, especially household consumables.

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