CURRENCY PRICES AND ECONOMIC PERFORMANCE IN NIGERIA

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Abstract

This study determined the currency prices on economic performance in Nigeria from 1981 to 2023. The researchers made used of the ex post facto research design. The data used in this study were gathered from secondary sources based on data available in the Central Bank of Nigerian (CBN) Statistical Bulletin and macrotrend website form (1981-2023). This study adopted descriptive statistics, unit root, bounds cointegration tests, Auto-regressive Distributed Lag Models (ARDL) model and Heteroskedasticity Diagnostic Test such as Breusch-Pagan-Godfre Heteroskedasticity test, Harvey Heteroskedasticity Test and Heteroskedasticity Test: Glejser. The findings from the study revealed that there is an insignificant effect of exchange rate on gross domestic product in Nigeria for both short run and long run, there is a significant effect of interest rate on gross domestic product in Nigeria for short run but there an insignificant effect of interest rate on gross domestic product in Nigeria for long run, there is a significant effect of inflation rate on gross domestic product in Nigeria for short run but there an insignificant effect of inflation rate on gross domestic product in Nigeria for long run, there is an insignificant effect of oil price on gross domestic product in Nigeria for both short run and long run, and there is a significant effect of foreign direct investment on gross domestic product in Nigeria for both short run and long run. The study concluded that there is a significant effect of currency prices on economic performance in Nigeria when planning for short run activities but there is an insignificant effect of currency prices on economic performance in Nigeria when planning for long run activities. It was suggested amongst others that Nigerian government should endeavour to stabilize the exchange rate of Naira in order to increase economic growth because when exchange fluctuate at any given time, it affect gross domestic product insignificantly.

Keyword: *Exchange rate, Interest rate, Inflation Rate, Oil Price and Foreign Direct Investment*

Introduction

Currency prices and economic performance in Nigeria has posed a topical issue in the field of study, which has triggered this research. Currency prices generally speaking is the country exchange rate, interest rate, inflation, oil price and foreign direct investment in comparison to other countries and how this affect real gross domestic product of our dear nation Nigeria. A country's currency value may also be set by the country's government. In Nigeria, the currency prices policy has undergone significant transformation from the immediate post-independence period when the country maintained a fixed parity with the British pound, through the oil boom of the 1970s, to the floating of the currency in 1986, following the near collapse of the economy between 1982 and 1985 (David & Oluseyi, 2017; Ehinmowo et al., 2017; Berhe & Gebrehiwot, 2020; Ogochukwu et al., 2024; Tonye & Ogwu, 2024). Odhiambo (2021) stated that a nation experiencing balance of payment deficit has to adopt both short- and long-term

measures to correct the disequilibrium, and one of the measures is to devalue the nation's currency relative to another currency, group of currencies or standard. According to Tonye and Ogwu (2024), governments of different countries devalue their currencies only when they have no other way to correct the economic problem.

Statement of the Problem

Nigeria's population and the size of the market has also remained an attraction for FDI inflow with the current population estimated at 183million people in 2015 (growing at a projected rate of 2.82%). The country is currently ranked the 7th most populous country in the world and has enjoyed a positive GDP growth rate in the last 10 years and a relatively stable exchange rate regime. Nigeria's GDP was recently rebased with the result of placing the country as Africa's largest economy with an annual GDP of $510 billion. The International Monetary Fund (IMF) maintains that Nigeria growth forecast is at 3.3% for 2024.

According to Tonye and Ogwu (2024), the Nigerian economy faces a multifaceted set of challenges hindering its sustained growth and development. These challenges extend beyond economic diversification and include high unemployment rates, persistent inflation, heavy reliance on oil revenue, and a significant foreign debt burden. Addressing these impediments requires in-depth analysis and strategic solutions to unlock the nation's potential. Foremost among these challenges are the persistently high rates of unemployment and underemployment, which hinder individual prosperity and the nation's ability to leverage its human capital for economic growth (Anyanwu & Duru, 2021). Nigeria's heavy reliance on oil revenue also leaves it vulnerable to global oil price volatility, hampering economic diversification efforts and exposing the country to economic shocks (Akpokerere & Ekane, 2022). Meanwhile, the mounting foreign debt burden poses fiscal challenges, with a significant portion of the national budget allocated to debt servicing, diminishing financial stability and hindering sustainable growth (Yusuf & Mohd, 2023). Moreover, persistent inflation rates exceeding desired levels erode citizens' purchasing power, limiting their ability to invest, save, and contribute meaningfully to the economy (Anidiobu et al., 2018).

According to Tonye and Ogwu (2024), the government of the day relies on foreign exchange reserve generated from crude oil to manage excessive volatility in exchange rate that exerts severe strain on the foreign exchange earnings. It is evident that the demand for foreign exchange has continuously been on the rise in the past few years as a result of factors like dependence on imported finished products, reversal of capital flow by investors and high speculative demand which has caused uncertainty in the foreign exchange market which also is caused by increased demand for foreign exchange in the face of unstable supply this are the concerns for this study. Hence, this study aimed to find the extent ot which country's currency prices affects economic performance using exchange rate, interest rate, inflation rate, oil price, export, and foreign direct investment to measure the gross domestic product (GDP) in Nigeria.

Conceptual Framework

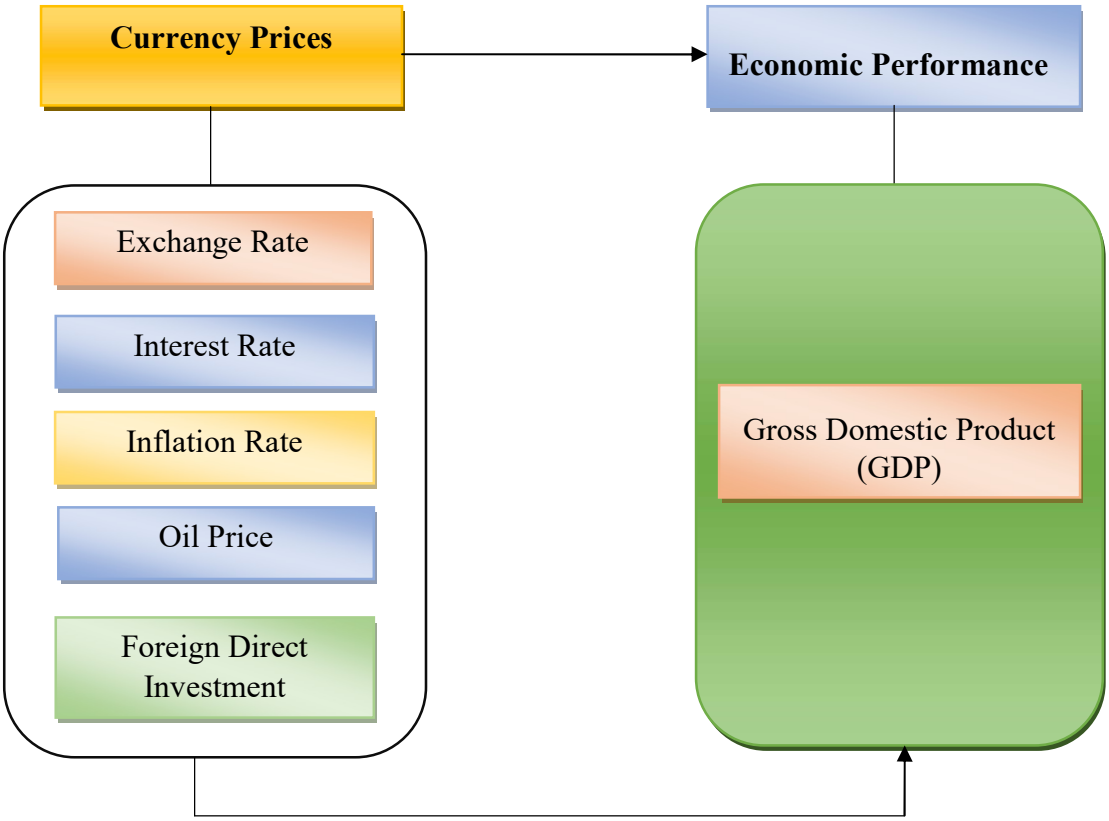

Fig 1: Conceptual Framework of currency prices and economic performance
Sources: David and Oluseyi (2017), Ehinmowo et al. (2017), Berhe and Gebrehiwot, (2020), Major and Nmehiele (2021), Miftahu and Isaac (2023), Nyeche (2024), Tonye and Ogwu (2024)

Aim and Objectives of the Study

The aim of study was investigate the effect of currency prices on economic performance in Nigeria. Specifically, this study investigates the following objectives to:

1. Investigate the effect of exchange rate on gross domestic product in Nigeria
2. determine the effect of interest rate on gross domestic product in Nigeria
3. analyze the effect of inflation rate on gross domestic product in Nigeria
4. examine the effect of oil price on gross domestic product in Nigeria
5. evaluate the effect of foreign direct investment on gross domestic product in Nigeria

Research Questions

The following research questions were constructed to guide and sharpen the study:

1. What is the effect of exchange rate on gross domestic product in Nigeria?
2. What is the extent to which interest rate affect gross domestic product in Nigeria?
3. How does inflation rate affect gross domestic product in Nigeria?
4. What is the effect of oil price on gross domestic product in Nigeria?
5. What is the effect of foreign direct investment on gross domestic product in Nigeria?

Hypotheses

The following hypotheses will be tested for the purpose of this study.

Ho_1: The exchange rate does not have a statistically significant effect on gross domestic product of Nigeria

Ho_2: The interest rate does not have a statistically significant effect on gross domestic product of Nigeria

Ho_3: The Inflation rate does not have a statistically significant effect on gross domestic product of Nigeria

Ho_4: The oil price does not have a statistically significant effect on gross domestic product of Nigeria

Ho_5: The foreign direct investment does not have a statistically significant effect on gross domestic product of Nigeria.

Review of Related Literature

Conceptual Review

a. Currency Prices: Currency price is the price at which a unit of the currency of one country can be exchanged for a unit of the currency of another country. It determines the relative prices of domestic and foreign goods, as well as the strength of external sector participation in the international trade (Jerumeh et al., 2016). Currency prices are a natural outcome of the floating exchange rate system, interest rate, inflation rate, oil price and foreign direct investment that is the norm for most major economies. There has been an ongoing debate on the appropriate price policy in developing countries. The currency price is a crucial metric for assessing the value of a currency in relation to other currencies. It is the rate at which one country's currency may be exchanged for another (Nurudeen, 2016 and Tonye & Ogwu, 2024).

b. Exchange Rate: The exchange rate has been defined as the price of one currency in terms of another. An exchange rate is the value of one nation's currency versus the currency of another nation or economic zone (Ali et al., 2024). Therefore, the exchange rate is the price at which one country exchanges its currency for other currencies. The exchange rate is the rate at which one currency is exchanged for another. It is the price of one currency in terms of another currency. It is customarily defined as the price of one unit of the foreign currency to a unit of the domestic currency. The exchange rate translates all prices (including wages and interest rates) in one currency into their value in another currency..

c. Interest Rate: Borrowing costs or ROI, often represented as a percentage, are what this term alludes to. Interest rate dynamics, however, significantly impact economic activity. If interest rates were to rise, for example, borrowing money would become more costly, which would have a negative impact on investment and consumer spending and, by extension, the economy as a whole.

d. Inflation Rate: The inflation rate is typically used to measure the economy's price stability. When inflation is low, the value of a currency grows relative to other currencies, leading to a higher exchange rate and more purchasing power (Miftahu, & Isaac, 2023). According to Ojuolape (2020), inflation has direct and indirect effects on every segment of the economy. It includes variables like the exchange rate, interest rates, and unemployment. Inflation is defined as a persistent rise in the overall price level of an economy. Moreover, it

signifies an upsurge in the costs associated with daily life. It is widely agreed that excessive and unpredictable inflation may negatively affect individual businesses, customers, and the entire economy (Tonye & Ogwu, 2024).

e. Oil Price: Aminu (2016) noted that oil price shocks arise from three main outcomes: shortfall in the supply of oil; an increase in oil demand and other factors which may be geological incidents or arising as a result of wars among countries. Oil price denotes the average ratio of world nominal oil denominated in US dollars with the consumer price index of the US, while shocks in the oil price are majorly explained in terms of fluctuations in price which led to a sharp adjustment in either the demand or supply side of the global oil market (Dada et al., 2022). According to Baumeister and Kilian (2016), oil price fluctuations are an unanticipated component of a substantial change in the price of oil, defined as the difference between the expected and realized oil prices. In the simplest term, a change in oil price could boost economic growth in that it could make the price of crude oil in the international market appreciate at the expense of domestic oil prices. These changes could be due to supply-side interruption which can be supply quotas from the OPEC, political disruption within and outside the country, a meltdown in the global economy and the prevailing activities of the militant groups experienced in most countries.

f. Foreign direct investments: FDI has been defined and described in a variety of ways, and we'll look at a few of them. Before today, FDIs were viewed as an “economic parasite" unhealthy competition that might stifle domestic markets for export promotion and so stifle economic progress in many nations, particularly emerging countries. However, many policymakers have recently recognized the multiple benefits that come with FDI inflows, and many countries throughout the world, including Nigeria, are now actively pursuing FDI inflows. This is because they now see FDI as a tool for economic development a "cheaper source of funding" (owing to the fact that financial inflows from FDI do not generate the problem of loan repayment of principal or interests as opposed to external debt). As a result, Africa, especially Nigeria, has shown interest just like the rest of the world in looking for FDI assistant (Acquah & Ibrahim, 2020).

g. Economic Performance: Economic Performance is then defined in terms of achieving or failing to achieve these objectives, the economic policy objectives are generally defined first so that economic performance can be evaluated against them (Ariayefa et al., 2024). Economic performance is certain times are likened to be the same as economic growth or development, but it is different, Economic Performance is something that economists define in terms of economic policy objectives.

h. Gross Domestic Product (GDP): GDP stands for gross domestic product. A common way to measure growth is in real terms, which considers inflation adjustments (Momodu & Akani, 2016). This helps reduce inflation's impact on the cost of produced items. Changes in GDP as a percentage each year illustrate the positive as well as negative consequences of economic growth. For the purpose of comparing national economic growth rates, particularly with regard to per-capita income, the GDP-to-population ratio is a popular statistic. An increase in a country's overall production is known as economic growth. Increases in overall output often, but not always, correspond with increased average marginal productivity. As a result, there is a rise in income, which motivates people to spend more money on purchasing goods and services, improving the tangible components of their standard of living or quality of life. In economics, economic growth is often represented as a result of the labour force, technology, human capital, and physical capital. In essence, enhanced economic productivity may be attained by augmenting the size or caliber of the working-age populace, the accessible

resources, and the ability to integrate labour, capital, and raw materials (Tonye & Ogwu, 2024).

Theoretical Review

The Purchasing Power Parity Theory

Purchasing Power Parity (PPP) theory is a work that is generally attributed to Cassell's writing in the 1920s, although its intellectual origin dated back to the early writings of the 19th century British economist (Cassel, 1920). The theory proposes that exchange rate is the exchange rate between two currencies which would equate the two relevant national price levels if expressed in a common currency at that rate, so that the purchasing power of a unit of one currency would be the same in both economies (Odoh et al., 2023). PPP theory constitutes one of the fundamental building blocks in modelling the theories of exchange rate determination as it enjoys significance in exchange rate literature and has far reaching implications at the theoretical, empirical and policy levels (Idaka et al., 2021). PPP maintains its ground that in the longrun, identical products and services in different countries should cost the same (Odoh et al., 2023). This is based on the principle that exchange rates will adjust to eliminate the arbitrage opportunity of buying cheaper goods or services in one country and selling it at increased prices in another, with the assumption of no tariffs, transportation costs, transaction costs and the existence of competitive markets for the goods and services in all countries (Nwikina & Ekere, 2024).

This theory is applicable to this study because, due to the unpredictable nature of exchange rates, it seeks to estimate the exchange rate that would bring the purchasing power of the Nigerian naira to par with that of other countries' currencies. The purchasing power parity theory is valid in this study because it helps to explain how exchange rate between countries determines the strength of currency to another in terms of the purchasing power. When this occurs, firms will spend more because of the rise in inflation and interest rates due to price differential also affect the exchange.

Empirical Review

Tonye and Ogwu (2024) studied the impact of currency devaluation on economic growth in Nigeria from 2003 to 2022. The study employed an ex-post facto research design. Data on exchange rates, inflation rates, and gross domestic product (GDP) were sourced from reputable institutions such as the Central Bank of Nigeria Statistical Bulletin and the World Bank Indicator. The study adopted multiple regression analysis with E-views 9.0. The study found significant impacts of both the exchange rate and inflation rate on GDP, contradicting the null hypotheses. These findings suggested that currency devaluation significantly impacts economic growth in Nigeria. The study underscores the necessity for policymakers to implement measures to stabilize the exchange rate, such as implementing prudent monetary policies and fiscal measures.

Ani et al. (2024) studied the effect of foreign exchange rate disruptions on stock market performance of selected manufacturing firms quoted on the Nigerian exchange group. The study adopted ex-post facto research design. Secondary data cut from Nigerian stock market reports, 2023. The study covered a period of 10 ranging between June and September, 2023. Five (5) selected manufacturing firms quoted in Nigerian exchange group using random sample techniques. Data were analyzed using simple ordinary regression analytical estimation technique with aid of E-view v8. Stock market price and stock volume were proxy for dependent variable, while exchange rates disruptions for independent variable. The empirical results reveal that exchange rate disruption has non-significant negative effect on stock market

price of selected manufacturing firms in Nigeria exchange group. The concluded that disruptions in foreign exchange rate have non-significant negative effects on the market performance of selected manufacturing firms quoted in the Nigerian exchange group. The researcher recommends that if the foreign currency rate is permitted to continue to disrupt, the Nigerian government should think about developing consistent rules to control, monitor, and manage the disruptions.

Sodik and Monica (2024) determined the interrelationship between exchange rate volatility and productivity in Nigeria. The study adopted literature review approach on the linkages between productivity and exchange rate volatility and highlighted the different dimensions of relations between the two economic variables. The paper highlighted the drivers of the recent turbulent movement in the Nigerian foreign exchange market, categorising them based on the demand and supply sides of the market. On both sides, the escalation of market players' speculative behaviours has amplified the pressure on Naira. Meanwhile, the dependence on imports for raw materials, intermediate inputs and finished products primarily drives exchange rate volatility. The study also strongly emphasised the need for harmonising foreign exchange management guidelines and clarity and transparency in managing the foreign exchange market.

Nyeche (2024) studied the effect of exchange rate dynamics on economic growth in Nigeria from 1985 to 2021. The study utilized secondary data sources from the World Development Indicators (WDI) and the Central Bank of Nigeria (CBN) Statistical Bulletin. The econometric techniques employed in the study were unit root tests, cointegration, and autoregressive distributed lag (ARDL)/bound techniques. It employed real gross domestic product as a measure of economic growth. In addition to the official exchange rate as a proxy for exchange rate dynamics, the study integrated other domestic factors that can affect economic growth, such as trade openness and external reserves. Following the outcome of the bound test, it was reported that a long-run relationship exists between economic growth, exchange rate, trade openness, and external reserves. The long-run ARDL results reveal that the exchange rate had a positive and statistically significant effect on real GDP in Nigeria, trade openness had a positive and not statistically significant impact on real GDP in Nigeria, and external reserves had a positive and statistically significant impact on real GDP in Nigeria. Based on the results, the study recommends that the government should develop policies that stabilize the exchange rate.

Nwikina and Ekere (2024) studied effect of the exchange rate on GDP growth in Nigeria from 1985–2021. The World Bank's World Development Indicator (WDI) and the Central Bank of Nigeria's (CBN) Statistical Bulletin were used as secondary sources of data. The real exchange rate served as a stand-in for the actual exchange rate, while real gross domestic product was used to gauge economic growth. The study used the Augmented Dickey-Fuller unit root test, bound test and The ARDL analysis. The bound test found that the exchange rate and economic growth are related in the long term. The ARDL analysis shows that there is a weak negative correlation between the exchange rate and GDP growth. According to the research, trade openness has a small but favorable effect on GDP growth. Furthermore, the research indicated that foreign exchange reserves significantly and positively impacted economic development. There was also a negative and statistically significant relationship between interest rates and GDP growth. The analysis found that the exchange rate did not have a significant role in determining Nigeria's economic development. Given the importance of a stable and predictable exchange rate in boosting economic development, the research suggests that monetary authorities implement a policy primarily aimed at stabilizing exchange rates.

Ali et al. (2024) studied the impact of the relationships between exchange rate, inflation rate and oil price on Nigeria's economic growth covering a period of 42 years (1976-2020). The study employed Autoregressive Distributive Lag (ARDL), and Johansen Co-integration test. From the ARDL test, the result of the study revealed that inflation hurts RGDP while oil price and exchange rate revealed a positive impact on RGDP which is the proxy for economic growth. The Johansen co-integration result highlighted the existence of a long-run equilibrium relationship among the variables namely: exchange rate, inflation, oil price and RGDP. Therefore, the study recommended that the government should provide effective and efficient policy(s) on exchange rates that would absorb any shock (positive/negative) in the economy.

Ariayefa et al. (2024) studied the impact of foreign direct investment (FDI) on economic growth in Nigeria from 1981 to 2022. The study employed the autoregressive distributed lag (ARDL) technique to estimate the model, while the eclectic paradigm and endogenous growth theory served as the theoretical framework for the study. Real gross domestic product growth rate (RGDPGR) was the proxy for economic growth while foreign direct investment (FDI), gross fixed capital formation (GFCF), per capita income (PCI) and exchange rate (EXR) were the explanatory variables. The results revealed that in the long run, foreign direct investment, per capita income and exchange rate were positive but statistically insignificant to economic growth in Nigeria, while gross fixed capital formation was insignificant. However, in the short, GFCF had significant negative impact on economic growth in the second lagged year showing that a unit increase in GFCF decreased RGDPGR while per capita income impacted positively on the growth of the Nigerian economy. The study recommended that the government should increase her investment in human capital development focusing on technical skills relevant in manufacturing and service sectors to engender growth in per capita income to attract FDI and economic growth in Nigeria.

Talatu and Fatmata (2023) studied the effect of inflation and unemployment on economic growth in Sierra Leone using a quarterly time series data, the study adopted the Autoregressive Distributed Lag (ARDL) model for the purpose of estimation and result analysis. Through the ARDL Bounds test for cointegration, the study established the existence of a longrun relationship in the model, and as a result, both a long-run and short-run ARDL models were estimated. From the long-run results, it was revealed that the effect of Inflation (Inf) and unemployment (Unem) on economic growth in Sierra Leone was significantly negative.). Based on the findings, it recommended that credible inflation targeting policies must be pursued by monetary authorizes while the government should create opportunities through which the skills and capacity of the population can be fully enhanced.

Miftahu and Shuyur (2023) studied the impact of exchange rate fluctuations on economic growth in Nigeria. The correlation and regression analysis of the ordinary least square (OLS) were used to analyze the data. The result revealed that exchange rate has positive effect but not significant. The result also indicated that interest rate and rate of inflation have negative effect on economic growth but not significant. Therefore, the study recommended that government should provide a conducive environment for trade, adequate security, effective fiscal and monetary, as well as infrastructural facilities that would attract foreign investments in Nigeria. In addition, government should encourage export promotion strategies in order to maintain a surplus balance of trade.

Gap in Literature

The empirical studies on currency prices and economic performance presented diverse and disaggregated results. Studies such as Tonye and Ogwu (2024), Ani et al. (2024), Nyeche (2024), Morlai and Omojolaibi (2024), Abdioglu (2019), Emeka (2024), Ogochukwu et al. (2024), Ariayefa et al. (2024) showed different outcomes. It remains unclear the explanations empirical results often show varying outcomes. These conflicting outcomes revealed that currency prices and economic performances are still inconclusive. The inconclusive outcomes have made the debate open to future research. The gap in terms of time, location, literature and methodology are also a contributory reason to the differences in the various outcomes of the impact of currency price and economic performance. Following the above listed gap created by the prior studies in the light of mixed perspectives in research outcomes by different scholars, this study will fill the gap by adopting services companies in carrying out currency price and economic performance in Nigeria. Also, this study expands on prior research by updating the data to 2023 and by using a more robust statistical tool. Hence, the aim of this study was to investigate the effect of currency price on economic performance in from 1981 to 2023.

Methodology

The research design employed for this study, titled "currency prices and economic performance in Nigeria," adhered to an ex post facto research design. In this approach, the researcher examined pre-existing data to analyze relationships between variables without direct intervention or manipulation. The study extensively delved into historical data concerning currency price and economic performance in Nigeria, enabling a thorough analysis of the prevailing situation. The time series data were obtain from secondary sources for the purpose of this research investigation. The study empirically investigates the effect of currency price on economic performance in Nigeria for the period 1981-to-2023. The secondary data were obtain basically sourced from the Central Bank of Nigeria (CBN) statistical bulletin and the World Bank Development Website spanning through the period 1981-to-2023.

Model Specification

To indulge in empirical analysis the effect of currency prices on economic performance in Nigeria; the Gross Domestic Product (GDP) was use as the endogenous variable while exchange rate (EXTR), Interest Rates (INTR), Inflation Rate (INFR), Oil Price (OPX), and Foreign Direct Investment (FDI) were use as the exogenous variables. The model is specified thus:

Model: Gross Domestic Product (GDP)

$GDP = f(EXTR, INTR, INFR, OPX, FDI)$ …….....Eq(1)

From equation 1, the econometric form is stated thus::

$LGDP = \beta_0 + \beta_1 EXTR_t + \beta_2 L\ INTR_t + \beta_3 L\ INFR_t + \beta_4 L\ OPX_t + \beta_5 L\ FDI_t + \mu$.....…Eq(2)

Where: GDP = Gross domestic product as proxy for economic performance
EXTR = exchange rate as proxy for currency price
INTR = interest rates as proxy for currency price
INFR = Inflation rate as proxy for currency price
OPX = Oil Price as proxy for currency price
FDI = Foreign direct investment as proxy for currency price
f = function

t = time period under study
β_o = constant
β_1- β_5= Parameter or coefficient of explanatory variable
u = error term

Method of Data Analysis

Consistent with the quantitative design, the study employed technique of inferential analysis in this study (parametric statistics). This technique is related with the use of quantitative models that seek to establish impact between two variables by using sample-based parameters as measures to infer about the population of the study. Descriptive statistic analysis, unit root test, Auto Regressive Distributive Lag (ARDL) and Heteroskedasticity Diagnostic Test such as Breusch-Pagan-Godfre Heteroskedasticity test, Harvey Heteroskedasticity Test and Heteroskedasticity Test: Glejser was employed to ascertain the long run and short run coefficients of the dimensions of the study.

Data Analysis and Discussion of Findings

Table 1 Descriptive Statistics

	GDP	EXTR	INTR	INFR	OPX	FDI
Mean	3.890721	143.5191	16.42488	19.07948	44.94302	6.315880
Median	4.060753	116.8000	16.94000	13.00700	32.38000	6.512801
Maximum	5.370006	899.8900	29.80000	72.83550	109.4500	7.838159
Minimum	2.143984	0.610000	3.920000	5.388000	12.28000	4.173309
Std. Dev.	1.081888	169.5038	5.765368	16.28122	30.40482	1.188680
Skewness	-0.308388	2.389132	-0.341855	1.867415	0.817230	-0.594431
Kurtosis	1.668949	10.49863	3.269858	5.472971	2.357418	1.956538
Jarque-Bera	3.855866	141.6515	0.968008	35.94896	5.526166	4.483118
Probability	0.145449	0.000000	0.616311	0.000000	0.063097	0.106293
Sum	167.3010	6171.320	706.2700	820.4175	1932.550	271.5828
Sum Sq. Dev.	49.16022	1206725.	1396.057	11133.28	38827.02	59.34435
Observations	**43**	**43**	**43**	**43**	**43**	**43**

Source: Generated by the researchers from data collected using E-View (2024)

Table 1 above shows that all the variables have a positive growth rate as indicated between the minimum and maximum statistical values. Gross Domestic Product (GDP) grow from 2.143984 to 5.370006 with a Mean value of 3.890721 and standard derivation of 1.081888, exchange rate (EXTR) grow from 0.610000 to 899.8900 with a Mean value of 143.5191 and standard derivation of 169.5038, Interest Rates (INTR) grow from 3.920000 to 29.80000 with a Mean value of 16.42488 and standard derivation of 5.765368. Inflation Rate (INFR) grow from 5.388000 to 72.83550 with a Mean value of 19.07948 and standard derivation of 16.28122, Oil Price (OPX) grow from 12.28000 to 109.4500, with a Mean value of 44.94302 and standard derivation of 30.40482 and Foreign Direct Investment (FDI) grow from 4.173309 to 7.838159, with a Mean value of 6.315880 and standard derivation of 1.188680.

The result also indicated a skewness and kurtosis shows average level of consistency. The various statistics indicate that the variables have different distribution normality test. The

skewness and kurtosis statistics provide useful information about the symmetry of the probability distribution of normality of the various time series as well as the thickness of the tails of these distributions respectively. EXTR, OPX and INFR are all had positives values skewed showing that they have a long right tail while GDP FDI and INTR had negative values skewed showing that they have a short right tail. Finally, the Probability of the Jarque-Bera stat for Gross Domestic Product (GDP), exchange rate (EXTR), Oil Price (OPX) and Foreign Direct Investment (FDI) indicated that, they were normally distributed Interest Rates (INTR) and Inflation Rate (INFR) were not normally distributed.

Unit Root Test

Following the descriptive statistics of the variables, this time series properties of the variables was conducted by the Augmented Dickey-Fuller (ADF) and the result presented in table 2.

Table 2 Output of Stationarity Test for Unit Root

Variables	Level		1st Diff		Order of Integration
	t-Sta	5% Prob.	t-Sta	5% Prob.	
GDP	-1.498001	0.5249	-3.543503	0.0116	1(1)
EXTR	1.053650	0.9963	-3.525733	0.0131	1(1)
INTR	-3.221139	0.0257	-	-	1(0)
INFR	-3.082366	0.0356	-	-	1(0)
OPX	-1.366226	0.5896	-5.907371	0.0000	1(1)
FDI	-1.060993	0.7222	-6.972616	0.0000	1(1)

Source: E-view Output for Stationarity of Data

The unit root test results showed that only Interest Rates (INTR) and Inflation Rate (INFR) is stationary at levels given that the probability value of its tests statistic is less than 0.05. This implies that the null hypothesis of unit root is rejected in this case. The other variables for the investigation were found to be non-stationary at levels. However, the first difference test showed that the variables become stationary at first difference. Thus, the results showed that Interest Rates (INTR) and Inflation Rate (INFR) is integrated of order zero [I(0) while Gross Domestic Product (GDP), exchange rate (EXTR), Oil Price (OPX) and Foreign Direct Investment (FDI) are integrated of order one I(1). The findings indicate that the variables are mixed integrated which makes it imperative for the application of ARDL Model.

Table 3 Johansen co-integration

Date: 12/15/24 Time: 19:06
Sample (adjusted): 3 43
Included observations: 41 after adjustments
Trend assumption: Linear deterministic trend
Series: GDP EXTR INTR INFR OPX FDI
Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.668259	137.7531	95.75366	0.0000
At most 1 *	0.564300	92.51363	69.81889	0.0003
At most 2 *	0.505264	58.45077	47.85613	0.0037
At most 3	0.331538	29.59776	29.79707	0.0527
At most 4	0.188344	13.08396	15.49471	0.1118
At most 5 *	0.104562	4.528153	3.841466	0.0333

Trace test indicates 3 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.668259	45.23943	40.07757	0.0120
At most 1 *	0.564300	34.06286	33.87687	0.0475
At most 2 *	0.505264	28.85301	27.58434	0.0342
At most 3	0.331538	16.51380	21.13162	0.1962
At most 4	0.188344	8.555809	14.26460	0.3250
At most 5 *	0.104562	4.528153	3.841466	0.0333

Max-eigenvalue test indicates 3 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Source: Generated by the researcher from data collected using E-View (2024)

In table 4.3, the result of the trace statistic and Maximum Eigenvalue indicates three (3) co-integrating equations at 5% level. This can also easily be seen as two of the trace statistic and and Maximum Eigenvalue values are greater than their critical value at 5% level. This reveals that there is a long-run relationship among the variables employed in the model.

Table 4 VAR Lag Order Selection Criteria

VAR Lag Order Selection Criteria
Endogenous variables: GDP EXTR INTR INFR OPX FDI
Exogenous variables: C
Date: 12/15/24 Time: 19:19
Sample: 1 43
Included observations: 40

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-739.5175	NA	6.22e+08	37.27588	37.52921	37.36747
1	-501.8236	392.1950*	26522.73*	27.19118*	28.96450*	27.83236*
2	-468.1076	45.51664	33686.28	27.30538	30.59869	28.49614
3	-439.0435	30.51729	67710.83	27.65217	32.46548	29.39251

* indicates lag order selected by the criterion
LR: sequential modified LR test statistic (each test at 5% level)
FPE: Final prediction error
AIC: Akaike information criterion
SC: Schwarz information criterion
HQ: Hannan-Quinn information criterion

Source: Generated by the researchers from data collected using E-View (2024)

From the result presented in table 4.4, the appropriate lag length for this model is one, since all the criteria for selecting optimum lag length choose one as the lag length. Thus, Akaike information criterion was used in this study.

ARDL Bounds Test

Having established the presence of three major structural breakpoints in the model, it is pertinent to estimated ARDL model which controlled for the multiple structural breaks by creating dummy for the breakpoints. Table 4.5 and table 4.6 reports the estimate ARDL model with structural breaks on effect of currency prices on economic performance in Nigeria.

Table 5 ARDL Bounds Test

F-Bounds Test			Null Hypothesis: No levels relationship	
Test Statistic	Value	Signif.	I(0)	I(1)
			Asymptotic: n=1000	
F-statistic	46.91754	10%	2.08	3
k	5	5%	2.39	3.38
		2.5%	2.7	3.73
		1%	3.06	4.15

Source: Generated by the researchers from data collected using E-View (2024)

The results of the bounds cointegration test showed that the computed F-statistic (46.91754) is greater than the corresponding critical value (3.38) at 5 per cent level. This implies that the variables are cointegrated and as such the null hypothesis that no longrun relationships exist is

rejected. This implies that GDP growth has a long run relationship with exchange rate (EXTR), Interest Rates (INTR), Inflation Rate (INFR), Oil Price (OPX), and Foreign Direct Investment (FDI). This, therefore, provides the empirical basis for estimating the ARDL model.empirical basis for estimating the ARDL model.

Table 6 ARDL Long Run Form and Short Run

ARDL Long Run Form and Bounds Test
Dependent Variable: D(GDP)
Selected Model: ARDL(1, 0, 0, 0, 1, 1)
Case 2: Restricted Constant and No Trend
Date: 12/15/24 Time: 19:25
Sample: 1 43
Included observations: 42

Short Run

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.103494	0.050797	-2.037410	0.0497
GDP(-1)*	-0.052013	0.034024	-1.528704	0.1359
EXTR**	-4.83E-05	3.70E-05	-1.305464	0.2008
INTR**	0.002223	0.000909	2.445146	0.0200
INFR**	0.001602	0.000257	6.228203	0.0000
OPX(-1)	-6.16E-05	0.000191	-0.321835	0.7496
FDI(-1)	0.050034	0.028774	1.738858	0.0914
D(OPX)	0.000363	0.000283	1.282006	0.2088
D(FDI)	0.103071	0.033645	3.063507	0.0043

* p-value incompatible with t-Bounds distribution.
** Variable interpreted as Z = Z(-1) + D(Z).

Long Run

Case 2: Restricted Constant and No Trend

Variable	Coefficient	Std. Error	t-Statistic	Prob.
EXTR	-0.000928	0.001185	-0.782973	0.4392
INTR	0.042731	0.040131	1.064789	0.2947
INFR	0.030796	0.022427	1.373119	0.1790
OPX	-0.001185	0.003950	-0.299931	0.7661
FDI	0.961943	0.140901	6.827101	0.0000
C	-1.989768	0.714098	-2.786407	0.0088

Source: Generated by the researcher from data collected using E-View (2024

Tests of Hypotheses

Ho_1: The exchange rate does not have a statistically significant effect on gross domestic product of Nigeria.

The result of the analysis using the ARDL shows that exchange rate (EXTR) is negatively affected by Gross Domestic Product (GDP) in both short run and long run with Coefficients of -4.83 and -0.0009. As exchange rate (EXTR) increases by a unit, Gross Domestic Product

(GDP) decreases by -4.8% and 0.00% and vice versa in the long run and short. Exchange rate (EXTR) is shown to be statistically insignificant using the Prob (0.2008 and 0.4392). We will therefore accept the null hypothesis, reject the alternative and conclude that exchange rate does not have a statistically significant effect on gross domestic product of Nigeria for both short run and long run.

Ho_2: The interest rate does not have a statistically significant effect on gross domestic product of Nigeria

The result of the analysis using the ARDL shows that Interest Rates (INTR) is positively affected by Gross Domestic Product (GDP) in both short run and long run with Coefficients of 0.002223 and 0.030796. As Interest Rates (INTR) increases by a unit, Gross Domestic Product (GDP) increases by 0.02% and 4.2% and vice versa in the long run and short. Interest Rates (INTR) is shown to be statistically significant using the Prob (0.0200) for the short run but statistically insignificant using the Prob (0.2947) for the long run. We will therefore reject the null hypothesis, accept the alternative for short run and accept the null hypothesis, reject the alternative for long run. Thus, we conclude that interest rates does have a statistically significant effect on gross domestic product of Nigeria for short run but interest rates does not have a statistically significant effect on gross domestic product of Nigeria for the long run.

Ho_3: The Inflation rate does not have a statistically significant effect on gross domestic product of Nigeria

The result of the analysis using the ARDL shows that Inflation Rate (INFR) is positively affected by Gross Domestic Product (GDP) in both short run and long run with Coefficients of 0.001602 and 0.030796. As Inflation Rate (INFR) increases by a unit, Gross Domestic Product (GDP) increases by 0.01% and 3.0% and vice versa in the long run and short. Inflation Rate (INFR) is shown to be statistically significant using the Prob (0.0000) for the short run but statistically insignificant using the Prob (0.1790) for the long run. We will therefore reject the null hypothesis, accept the alternative for short run and accept the null hypothesis, reject the alternative for long run. Thus, we conclude that inflation rate does have a statistically significant effect on gross domestic product of Nigeria for short run but inflation rate does not have a statistically significant effect on gross domestic product of Nigeria for the long run.

Ho_4: The oil price does not have a statistically significant effect on gross domestic product of Nigeria

The result of the analysis using the ARDL shows that Oil Price (OPX) is positively affected by Gross Domestic Product (GDP) in the short run but negatively affected by Gross Domestic Product (GDP) in the long run with Coefficients of 0.000363 and -0.001185. As Oil Price (OPX) increases by a unit, Gross Domestic Product (GDP) increases by 0.0% in the short run but decreases by -0.01% in the long run. Oil Price (OPX) is shown to be statistically insignificant using the Prob (0.2088 and 0.7661). We will therefore accept the null hypothesis, reject the alternative and conclude that oil price does not have a statistically significant effect on gross domestic product of Nigeria for both short run and long run.

Ho_5: The foreign direct investment does not have a statistically significant effect on gross domestic product of Nigeria.

The result of the analysis using the ARDL shows that Foreign Direct Investment (FDI) is positively affected by Gross Domestic Product (GDP) in both short run and long run with Coefficients of 0.103071 and 0.961943. As Foreign Direct Investment (FDI) increases by a unit, Gross Domestic Product (GDP) increases by 10.3% and 96.1% and vice versa in the long run and short. Foreign Direct Investment (FDI) is shown to be statistically significant using

the Prob (0.0043 & 0.0000) for both short run and long run. We will therefore reject the null hypothesis, accept the alternative and conclude that foreign direct investment does have a statistically significant effect on gross domestic product of Nigeria for both short run and long run.

Post Estimation Test Results

Table 7: Post-Estimation Statistics

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	1.519767	Prob. F(2,31)	0.2346
Obs*R-squared	3.750357	Prob. Chi-Square(2)	0.1533

Ramsey RESET Test
Equation: UNTITLED
Specification: GDP GDP(-1) EXTR INTR INFR OPX OPX(-1) FDI FDI(-1) C
Omitted Variables: Squares of fitted values

	Value	df	Probability
t-statistic	0.250414	32	0.8039
F-statistic	0.062707	(1, 32)	0.8039

Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	1.454492	Prob. F(8,33)	0.2116
Obs*R-squared	10.94878	Prob. Chi-Square(8)	0.2046
Scaled explained SS	10.24738	Prob. Chi-Square(8)	0.2481

Heteroskedasticity Test: Glejser

F-statistic	2.457679	Prob. F(8,33)	0.0529
Obs*R-squared	15.68093	Prob. Chi-Square(8)	0.0672
Scaled explained SS	14.75706	Prob. Chi-Square(8)	0.0640

Heteroskedasticity Test: Harvey

F-statistic	2.073179	Prob. F(8,33)	0.0676
Obs*R-squared	14.04824	Prob. Chi-Square(8)	0.0805
Scaled explained SS	14.11117	Prob. Chi-Square(8)	0.0789

Source: Generated by the researcher from data collected using E-View (2024)

Table 7 reveals the outcome of post-estimation statistics. The outcome of LM test of serial correlation and Ramsey RESET Test in table 4.6 points out confirmation of no autocorrelation in the error residuals of the data set. This is because it's estimated probability of is 0.2346 and 0.8039 (greater than 5%). Thus, the null hypothesis of no serial correlation is accepted and the alternative hypothesis is rejected. Also, the outcome of Breusch-Pagan-Godfrey, Glejser and Harvey test proposes that the series data are homoscedastic. That is, the series data sets are not suffering the setback of heteroscedasticity. This is because it's estimated probability of all the three method of heteroscedasticity is greater than 5%.

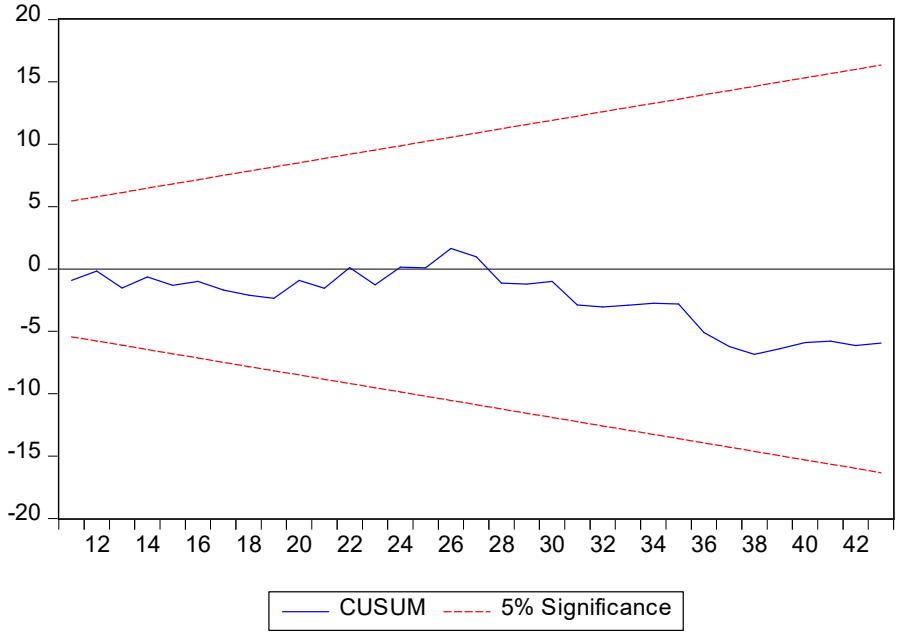

Fig 2. Cumulative sum (CUSUM) of Squares test

To ensure a fit ARDL model, the study used cumulative sum (CUSUM) and CUSUM of squares test established by Durbin et al. (1975). In the test the coefficient estimates are only accepted when the plotted CUSUM statistics falls within 5% significance level. The figures above reveal that the CUSUM plot falls within the 5% level of significant (denoted by the two red lines). This shows that the model is stable and not spurious.

Table 8 Result Summary of Hypotheses Analysis

S/N	Statement of Hypotheses	Short Run Result	Long run Result	Remark
Ho_1	The exchange rate does not have a statistically significant effect on gross domestic product of Nigeria	P = 0.2008	P = 0.4392	Insignificant for both short and long run
Ho_2	The interest rate does not have a statistically significant effect on gross domestic product of Nigeria	P = 0.0200	P = 0.2947	Significant for short run Insignificant for long run
Ho_3	The Inflation rate does not have a statistically significant effect on gross domestic product of Nigeria	P = 0.0000	P = 0.1790	Significant for short run Insignificant for long run
Ho_4	The oil price does not have a statistically significant effect on gross domestic product of Nigeria	P = 0.2088	P = 0.7661	Insignificant for both short and long run
Ho_5	The foreign direct investment does not have a statistically significant effect on gross domestic product of Nigeria	P = 0.0043	P = 0.0000	Significant for both short and long run

Source: Compiled by Researcher (2024)

Conclusions

The study investigated the effect of currency prices on economic performance in Nigeria. The need for effective and efficient monetary policy in terms of price control cannot be overemphasized due to the importance to GDP. Based on data obtained from Central Bank of

Nigeria, Statistical Bulletin for Various issues and macrotrends website, data analysis, discussion of findings in chapter four and summary of findings above, we concluded that there is a significant effect of currency prices on economic performance in Nigeria when planning for short run activities but there is an insignificant effect of currency prices on economic performance in Nigeria when planning for long run activities. Other sub-variables conclusions are as follow;

1. Exchange rate does not have a statistically significant impact on gross domestic product of Nigeria for both short run and long run.
2. Interest rates does have a statistically significant impact on gross domestic product of Nigeria for short run but interest rates does not have a statistically significant impact on gross domestic product of Nigeria for the long run.
3. Inflation rate does have a statistically significant impact on gross domestic product of Nigeria for short run but inflation rate does not have a statistically significant impact on gross domestic product of Nigeria for the long run.
4. Oil price does not have a statistically significant impact on gross domestic product of Nigeria for both short run and long run,
5. Foreign direct investment does have a statistically significant impact on gross domestic product of Nigeria for both short run and long run.

Recommendations

In the light of the findings of this research work, it is of cognizance to recommend the measures to further enhance the effect of currency prices on economic performance in Nigeria.

1. Nigerian government should endeavour to stabilize the exchange rate of Naira in order to increase economic growth because when exchange fluctuate at any given time, it affect gross domestic product insignificantly.
2. To reduce and minimize the effects of price increases on the value of real wages, salaries, rent, and thus private consumption expenditure, the government should strive to keep interest rate under control at all times.
3. It suggests that reducing inflation levels to single digits through credible inflation targeting processes or effective money supply control mechanisms can strengthen the macroeconomic position, boost investor confidence, and stimulate economic growth in the short run.
4. The recommendations of the study based on the insignificant effect of oil price on gross domestic product: policymakers should be cautious against changes in oil price and building good institutions helps in absorbing the effect of oil price fluctuations.
5. The recommendations of the study based on the significant effect of foreign direct investment on gross domestic product: government should takes specific action to rise inflows of FDI, take expansionary monetary policy and rise investment in human capital which develop the human skill and technical manpower earn the more in foreign countries that lead to rise remittance inflow within country.

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