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Effects of Macroeconomic Shocks on the Financial Market Stability in Nigeria

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ABSTRACT

Nigeria's economy, which depends heavily on oil earnings, is vulnerable to market volatility brought on by changes in the price of oil globally, fluctuations in exchange rates, inflationary pressures, and imbalances in domestic fiscal policy. These shocks have a direct impact on the stability of the financial markets in addition to the actual economy. This study therefore investigated the effects of various macroeconomic shocks on the stability of Nigeria's financial markets. The study made used of Autoregressive Distributive Lag (ARDL) for analysis. The result shows that MS has a positive inconsequential influence on GDP in the long run, as shown by p-values (0.1272); INTR has a negative impact on GDP in the long run. It has p-values of 0.0153, indicating a substantial effect in the long run; EXCR has a negative, significant impact on GDP in the long term. Its p-values (0.0112) which is less than the 5% level of significance; INF has a detrimental but not impacted on GD in the long term. It has p-values of 0.3953, indicating that there is no statistical significance in the long runs, and that OILP has a positive and not impacted on GDP in the long run. It exhibits p-values of 0.6760, indicating no statistical significance in the long term. The result further showed that macroeconomic variables shock have no significant impact on economic growth in Nigeria. The study recommends among other things that monetary authority and regulators must ensure that the oil price the money supply and exchange rates remain steady overall. They should also endeavour to curb inflationary trends and keep interest rates constant in the economy so that the GDP can perform better and achieve the desired economic growth and national development.

Keywords:

Macroeconomic shocks, financial market stability, oil prices, exchange rate volatility, inflation, fiscal policy, Nigeria.

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1. INTRODUCTION

For sustainable growth, macroeconomic stability is essential, especially in developing nations like Nigeria where external shocks can have profound effects. Nigeria's economy is highly reliant on oil earnings, making it vulnerable to fluctuations in exchange rates, inflationary pressures, changes in global oil prices, and imbalances in domestic fiscal policy. These shocks have a direct impact on the stability of the financial markets in addition to the actual economy. A number of macroeconomic issues have affected Nigeria recently, including recessions in 2016 and 2020 that were mostly caused by outside forces like the COVID-19 pandemic and falling oil prices worldwide (Adediran&Alade, 2021).

Any modern economy is supported by its financial markets, which carry out vital tasks like risk management, liquidity provision, and resource allocation. Financial markets are essential for promoting investment, economic growth, and the effective distribution of capital in developing nations like Nigeria. However, because macroeconomic shocks occur frequently, Nigeria's financial market which includes the stock, bond, and foreign exchange markets—faces formidable obstacles. These shocks, which can be internal or external, frequently cause instability, eroding market confidence and delaying economic growth.

Nigeria is especially susceptible to changes in the price of oil since its economy is heavily dependent on oil exports. Since more than 50% of government revenue and more than 85% of foreign exchange earnings come from oil, the economy is extremely vulnerable to changes in world prices (Adediran&Alade, 2021). The volatility of oil prices, which has been a significant cause of macroeconomic shocks in the nation over the past few decades, consequently exposes the Nigerian financial market. As an example, the oil price collapses in 2014 and 2020 caused significant economic disruptions, such as steep naira devaluations, spikes in inflation, and drops in asset values across financial markets (Adeola& Evans, 2023). In addition to changes in the price of oil, Nigeria's financial instability has also been exacerbated by other macroeconomic shocks like interest rate fluctuations, inflationary pressures, and exchange rate volatility. Periods of increased uncertainty in Nigerian financial markets have resulted from exchange rate volatility, which is frequently brought on by dwindling foreign reserves and outside shocks. As investors adapted to the shifting economic landscape, the naira's sustained depreciation between 2016 and 2020, for example, caused considerable volatility in the bond and equity markets (Eze&Akpan, 2022).

The problems facing financial markets have been made worse by inflationary pressures, which are frequently brought on by structural inefficiencies in the Nigerian economy, such as disruptions in the food supply chain and increases in fuel prices. Inflation raises borrowing costs, interferes with investment planning, and devalues financial assets. The Monetary Policy Rate (MPR) has been changed by the Central Bank of Nigeria (CBN) in response to these inflationary shocks; however, the results of these interventions have been inconsistent, with some making short-term market volatility worse (Olawale et al., 2023).

Interest rate changes, which are influenced by both changes in domestic monetary policy and outside financial circumstances, are also very important in determining the dynamics of Nigeria's financial markets. Bond yields, equity prices, and overall market liquidity have all been significantly impacted by the Central Bank's frequent interventions through the MPR, particularly in response to inflationary shocks. For example, in order to reduce inflation, the MPR was raised from 13% to 18.5% between 2022 and 2023. This tightened liquidity, which decreased stock market activity and raised borrowing costs for businesses. (CBN, 2023).

During times of global economic disruption, like the COVID-19 pandemic, the effects of these macroeconomic shocks have been especially noticeable. The pandemic not only caused the world's oil prices to plummet, but it also drastically reduced investor confidence, which led to massive capital flight and a notable drop in the value of the Nigerian Stock Exchange's (NSE) All-Share Index (NSE, 2021). The pandemic demonstrated Nigeria's financial markets' susceptibility to both internal and external shocks, even in the face of later stock market recoveries.

There has also been discussion about the Central Bank's role in lessening the impact of these shocks. Some academics contend that the CBN's aggressive monetary tightening policies have contributed to the stabilization of inflation, while others argue that they have unintentionally resulted in limited market activity and liquidity shortages (Akinbobola&Ojo, 2023). Furthermore, fiscal policies like government borrowing and subsidy reforms have also increased macroeconomic volatility, especially when it comes to their effects on the stability of the exchange rate and the sustainability of public debt (Ibrahim & Yusuf, 2023). Sustaining investor confidence, encouraging economic expansion, and advancing sustainable development all depend on the financial market's stability. Stable financial markets improve resource allocation efficiency, lower the chance of abrupt and disruptive changes in asset prices, and facilitate improved risk management. Conversely, financial instability can result in investor flight, high market volatility, and asset price bubbles, all of which can negatively impact the overall economy. Nigeria's prior financial crisis experiences, including the global financial crisis of 2008 and the oil price shock of 2016, highlight how crucial it is to comprehend and control macroeconomic risks in order to maintain financial stability. The purpose of this essay is to examine how different macroeconomic shocks affect the stability of Nigeria's financial markets.

2. LITERATURE REVIEW

Current Research and Policy Debate

Concern over the effects of macroeconomic shocks on Nigeria's financial markets has grown, according to recent studies. According to Olaniyi and Adegboye (2023), the Nigerian stock market has become more volatile due to external shocks like drops in oil prices and the depletion of foreign reserves, which has resulted in large capital outflows. In a similar vein, Okonkwo and Nwokoma (2022) examined how the bond market reacts to inflationary shocks and came to the conclusion that ongoing inflation raises uncertainty about interest rate

expectations, which lowers bond prices and raises yields. Many studies have been conducted on macroeconomic shocks and the stability of financial markets, especially in relation to developing nations like Nigeria. Numerous studies have examined the ways in which shocks impact various market segments, including stocks, bonds, and foreign exchange, given how vulnerable Nigeria's financial markets are to both internal and external shocks. With an emphasis on Nigeria, this section examines the main conclusions of recent research on the effects of macroeconomic shocks on the stability of financial markets, including changes in interest rates, inflation, oil price volatility, and exchange rates.

Exchange Rate Volatility and Financial Market Stability

It is commonly acknowledged that exchange rate volatility is a primary cause of financial market instability, especially in developing nations where foreign exchange markets are vital. The impact of exchange rate fluctuations on Nigeria's financial markets has been the subject of numerous studies. According to Eze and Akpan's (2022) investigation into the connection between exchange rate volatility and financial market performance, periods of significant naira depreciation cause the stock and bond markets to become more volatile. Their research emphasizes how speculative activity can intensify market responses to currency shocks, particularly when foreign reserves are being depleted.

According to Omojolaibi and Adedokun (2023), exchange rate volatility, which is frequently brought on by outside shocks like changes in the price of oil globally, also lowers stock market returns and raises investor risk aversion. In order to boost investor confidence, the authors advise policymakers to concentrate on stabilizing the exchange rate by combining structural reforms with foreign exchange interventions. The relationship between exchange rate volatility and bond market performance is further examined in recent studies by Olatunji and Bakare (2023). According to their findings, investors demand a premium for holding assets denominated in a depreciating currency, which causes exchange rate shocks to raise bond yields. Financial instability is exacerbated as a result, as borrowing becomes more expensive for the public and private sectors.

Inflationary Shocks and Financial Market Instability

Another important macroeconomic factor that influences the stability of financial markets is inflation. Prolonged inflation raises market uncertainty, interferes with investment planning, and devalues financial assets. In Nigeria, structural inefficiencies like high reliance on imports, disruptions in agricultural production, and frequent fluctuations in fuel prices are often the cause of inflationary pressures. In their analysis of how inflation affects the Nigerian bond market, Olawale et al. (2023) discover that inflationary shocks raise bond market volatility, especially in the long-term segment. According to their research, as investors look to offset the expected decline in purchasing power, rising inflation expectations result in higher yields.

The authors also point out that the Central Bank of Nigeria's (CBN) efforts to fight inflation by tightening monetary policy have yielded conflicting outcomes, with certain measures making short-term volatility worse. According to research on the stock market by Okonkwo and Nwokoma (2022), inflationary shocks have a negative effect on stock prices. Higher inflation raises production costs for businesses, which lowers profit margins and lowers investor expectations, according to the authors. Additionally, they point out that because of the structural nature of the inflation issue, which is frequently caused by supply-side constraints rather than demand-side factors, inflationary pressures are typically more persistent in Nigeria.

Oil Price Volatility and Financial Markets

Oil price volatility has been a significant source of macroeconomic shocks impacting the financial market because of Nigeria's heavy reliance on oil exports. Nigeria's government and foreign exchange earnings are primarily derived from oil revenues, which makes the financial market especially susceptible to fluctuations in the price of oil globally. The impact of changes in oil prices on the performance of Nigeria's financial markets has been the subject of numerous studies. Focusing on the relationship between oil price shocks and stock market performance, Adewale and Evans (2023) discover that the Nigerian Stock Exchange (NSE) All-Share Index experiences notable declines in response to steep drops in oil prices. According to their research, the stock market typically responds swiftly to changes in the price of oil, with energy-related stocks and businesses that rely significantly on government contracts being the most affected.

Similarly, Ibe and Ikechukwu (2022) examine how the volatility of oil prices affects the bond market and find that falling oil prices raise bond yields because investors view government borrowing and fiscal sustainability as riskier. The authors contend that because Nigeria's budget is heavily dependent on oil earnings, its bond market is especially vulnerable to changes in the price of energy globally because falling oil prices frequently lead to larger budget deficits and greater borrowing requirements. Omotosho et al.'s recent study from 2022 expands on this analysis by looking at how shocks to the price of oil affect the foreign exchange market.

According to the study, drops in oil prices cause the naira to weaken, which in turn causes other financial market sectors like bonds and stocks to become unstable. The authors contend that Nigeria's excessive reliance on oil exports puts it at risk, especially when the world energy market is disrupted, as was the case with the COVID-19 pandemic's oil price collapse.

Interest Rate Shocks and Market Liquidity

The stability of financial markets is greatly impacted by changes in interest rates, which are influenced by both internal monetary policy and external financial circumstances. In addition to having a significant impact on financial markets, changes to the Central Bank of Nigeria's (CBN) Monetary Policy Rate (MPR) are intended to affect inflation and economic growth.

Increases in the MPR result in higher bond yields and less liquidity in the financial market, according to Olawale et al.'s (2023) analysis of the relationship between interest rate changes and bond market performance in Nigeria. According to their findings, monetary tightening reduces inflation, but it also makes borrowing more expensive for businesses and the government, which can discourage investment and market activity.

Further investigating the impact of interest rate shocks on the stock market, Akinbobola and Ojo (2023) discover that higher interest rates typically cause stock prices to decline because they lower investor expectations and corporate profitability. The authors point out that the CBN's frequent interest rate increases have increased market volatility, especially during times of high inflation.

Fiscal Policy and Financial Market Responses

The stability of financial markets is significantly shaped by fiscal policy in addition to monetary policy. The bond and foreign exchange markets are significantly impacted by Nigeria's fiscal policy, especially with regard to government borrowing and deficit financing. The difficulties presented by Nigeria's growing debt levels are highlighted in recent research by Ibrahim and Yusuf (2023), who point out that significant fiscal deficits funded by domestic borrowing frequently drive away private investment and increase bond yields.
Furthermore, it has been discovered that government borrowing to fund subsidies and other spending initiatives puts pressure on the naira and causes exchange rate volatility (Okoye&Uche, 2023). As a result, the financial markets become uncertain as investors try to protect themselves from currency risk.

Empirical Literature

Many empirical analyses have attempted to comprehend the relationships between important macroeconomic variables and their effects on financial markets in the study of macroeconomic shocks and financial market stability. With an emphasis on Nigeria and other developing economies, this section examines some of the most recent empirical research and offers insights into the methods and conclusions of these studies.

Oil Price Shocks and Financial Market Performance

Because Nigeria is heavily dependent on oil exports, a number of empirical studies have examined the relationship between oil price shocks and financial market performance in that country.
Akpan&Asemota (2022) examined the effects of oil price shocks on the Nigerian stock market using a Structural Vector Auto-Regression (SVAR) model. According to their research, a positive oil price shock initially raised stock prices, but persistently high prices ultimately resulted in exchange rate volatility and inflationary pressures, which caused stock market declines.
Their study, which included data from 2000 to 2020, demonstrated that one of the main causes of Nigeria's financial instability is still changes in the price of oil. Salisu&Isah (2021)

investigated the volatility spillover from global oil prices to Nigeria's financial markets using a Generalized Autoregressive Conditional Heteroskedasticity (GARCH) model. They discovered that while rising oil prices had a stabilizing effect, falling oil prices, especially those in 2014 and 2020, caused considerable stock market volatility. The asymmetrical impacts of oil price shocks on market stability were highlighted in the study.

Exchange Rate Volatility and Financial Markets

Another important element influencing the performance of Nigeria's financial markets is exchange rate volatility. The impact of naira fluctuations on the stock and bond markets has been the subject of empirical research. The long-term and short-term impacts of exchange rate volatility on Nigeria's stock market were investigated by Adeoye&Atanda (2021) using cointegration and error-correction analysis. According to their findings, exchange rate depreciation lowered investor confidence, especially among foreign investors, and increased stock market volatility. Additionally, the study discovered that long-term market growth depends on exchange rate stability.

Olanrewaju&Osho (2022) examined the impact of exchange rate swings on Nigeria's bond market using an Autoregressive Distributed Lag (ARDL) model. They discovered that depreciation of the exchange rate raises bond yields, which raises the cost of borrowing for the government and decreases market liquidity. Their research made clear how urgently exchange rate reforms are needed to improve market stability.

Inflation and Stock Market Performance

Consumer purchasing power, business profits, and the total value of financial assets are all directly impacted by inflationary pressures in Nigeria. Using data from 2010 to 2023, Okojie&Salisu (2023) used a VAR model to examine how inflation affected Nigeria's financial markets. According to the study, inflationary pressures discourage investment and lower corporate profitability, which have a negative impact on stock market performance. Additionally, as inflation increases, interest rates rise as well, which lowers stock prices by making borrowing morecostly. The study also discovered that periods of political unrest frequently accompany inflationary episodes in Nigeria, which exacerbates market uncertainty.

The impact of the Central Bank of Nigeria's (CBN) inflation targeting on stock market performance was investigated by Aminu& Samuel (2022). They discovered that CBN's inflation-targeting framework has lessened the negative effects of inflation on stock prices using a difference-in-differences approach, but they also pointed out that frequent policy changes cause volatility to rise.

Fiscal Policy and Market Stability

Nigeria's fiscal policy imbalances, which are typified by large budget deficits and public debt, also have a big impact on the stability of the financial system. The connection between fiscal deficits and financial market performance has been examined in a number of empirical studies.

Alege&Ogundipe (2021) examined how fiscal policy shocks affected Nigeria's bond market using a dynamic stochastic general equilibrium (DSGE) model. According to their findings, excessive government borrowing discourages private investment, raises bond yields, and raises the cost of debt servicing. Because fiscal imbalances exacerbate market instability, this dynamic produces a vicious cycle.

Bello &Lawal (2023) evaluated the effect of government spending on Nigerian stock market performance through a time-series analysis employing a vector error correction model (VECM). They discovered that while government spending stimulates demand and improves market performance in the short term, long-term fiscal imbalances cause uncertainty and market volatility. In order to guarantee long-term financial stability, their study suggested more rigorous fiscal management.

Interest Rate Shocks and Financial Markets

Nigeria's financial markets are significantly impacted by changes in interest rates, especially those brought about by monetary policy changes. The impact of interest rate changes on the performance of the stock and bond markets has been the subject of empirical research. To investigate the volatility impacts of interest rate changes on Nigeria's stock market, Okonjo&Nwankwo (2022) used a GARCH model. Their findings demonstrated that while falling interest rates temporarily improve stock market performance, rising interest rates typically cause stock prices to decline as borrowing becomes more costly for businesses. But their research also showed that the CBN's frequent interest rate changes create uncertainty and raise market volatility overall.
Ibrahim &Aliyu (2023) examined the effect of interest rate shocks on the bond market using a VAR approach. The findings demonstrated that higher interest rates raise bond yields, which lowers bond appeal and causes capital flight. The study underlined how important the CBN's monetary policy decisions are to preserving the stability of the bond market, especially when the economy is unstable.

Theoretical Literature

A number of economic theories serve as the theoretical underpinnings for the connection between financial market stability and macroeconomic shocks. These frameworks aid in the explanation of the ways in which macroeconomic factors impact financial markets, including inflation, interest rates, oil prices, exchange rates, and fiscal policy. This section examines important theoretical models and frameworks that are pertinent to comprehending the dynamics of financial stability and macroeconomic shocks, especially as they relate to Nigeria.

The Efficient Market Hypothesis (EMH)

According to the Efficient Market Hypothesis, which was first put forth by Fama in 1970, asset prices fully reflect all available information because financial markets are informationally efficient. The EMH suggests that when macroeconomic shocks occur,

financial markets react to new information—like shifts in inflation, interest rates, or oil prices—quickly and effectively. Therefore, there should be no way to systematically forecast future price movements based on historical data, and macroeconomic shocks should have an instant impact on asset prices.

However, because of things like information asymmetries, market inefficiencies, and lax regulatory frameworks, financial markets in developing nations like Nigeria frequently depart from the EMH's presumptions in practice. According to Maku&Atanda (2010), for instance, Nigeria's financial markets are not entirely efficient, which means that macroeconomic shocks may cause protracted periods of volatility before the markets react to fresh information. The effects of shocks on the stability of the financial markets can be made worse by market inefficiencies like lack of transparency and delays in price adjustments.

The Financial Accelerator Model

According to Bernanke, Gertler, and Gilchrist's (1996) Financial Accelerator Model, the interplay of asset prices, borrowing conditions, and balance sheet positions causes economic shocks to be magnified through financial markets. According to this theory, corporate balance sheets can be weakened by macroeconomic shocks like a drop in oil prices or a depreciation of the exchange rate, which makes it harder for businesses to get credit. Further financial market instability results from this, which worsens the initial shock by decreasing investment and slowing economic growth. Given Nigeria's reliance on oil earnings and the susceptibility of its banking industry to outside shocks, the financial accelerator effect can be especially noticeable there.

Using the Financial Accelerator Model, Adebayo &Alimi (2013) discovered that macroeconomic shocks, particularly those associated with oil prices and exchange rate volatility, severely impair businesses' financial stability, resulting in a reduction in credit availability and extended instability of the financial markets. In order to lessen the effects of macroeconomic shocks, this theoretical framework emphasizes the significance of bolstering financial institutions and expanding credit availability.

The Theory of Financial Fragility

According to Minsky's (1977) original definition of financial fragility, excessive borrowing and risk-taking can make financial markets more susceptible to shocks. According to Minsky's theory, businesses and financial institutions typically take on more debt during times of economic expansion and stability, presuming that favorable economic conditions will last. However, these highly leveraged businesses and institutions might find it difficult to pay off their debt in the event of a negative macroeconomic shock, like an abrupt drop in oil prices or an increase in inflation, which could result in defaults and instability in the financial markets.

Financial fragility is evident in Nigeria's financial markets, especially when oil prices are high and government revenues and credit availability rise, encouraging excessive borrowing. However, as businesses experience liquidity constraints and defaults increase, the financial system becomes more susceptible to crises when oil prices fall. Sanusi (2010) used Minsky's

theory to analyze the 2009 banking crisis in Nigeria, showing how taking too much risk when oil prices were rising caused serious market instability when they fell.

The Portfolio Balance Theory

Tobin (1969) created the Portfolio Balance Theory, which describes how shifts in interest rates and exchange rates impact investors' asset prices and portfolio selections. The theory states that investors divide their portfolios among various assets (such as stocks, bonds, and foreign currencies) in accordance with the relative risks and returns of each asset. Investors modify their portfolios to preserve the ideal ratio of risk to return when macroeconomic shocks like shifts in interest rates or exchange rates take place.

The Portfolio Balance Theory aids in the explanation of how the Central Bank of Nigeria's (CBN) interest rate changes impact the movement of capital into and out of the country's stock and bond markets. For instance, domestic bonds attract more investors when the CBN raises interest rates to fight inflation or stabilize the exchange rate, which results in capital inflows and higher bond prices. On the other hand, when investors look elsewhere for greater returns, lower interest rates may cause capital to leave the country. Obi et al. (2016) examined Nigeria's bond market using the Portfolio Balance Theory and discovered that interest rate shocks significantly impact bond yields and investor behavior.

3. METHODOLOGY

This section describes the methodology used to examine the connection between Nigeria's financial market stability and macroeconomic shocks. In order to investigate how different macroeconomic factors affect the stability of Nigeria's financial markets, the methodology combines data selection, model specification, and analytical tools. It describes the statistical methods and econometric models that are used to capture the immediate and long-term impacts of macroeconomic shocks. The secondary time-series data used in this study spans the years 2000–2023. The following sources provided the data: The National Bureau of Statistics (NBS) and the Central Bank of Nigeria (CBN) gives information on GDP growth, oil prices, inflation, interest rates, money supply, and exchange rates.

Variables

The following are the main variables used in the analysis:

Oil Price (OP): The price of crude oil globally, since Nigeria's economy is largely reliant on oil exports. Exchange Rate (ER): The Nigerian naira's official exchange rate in relation to the US dollar. Inflation (INF): The rate of inflation as determined by the consumer price index (CPI). Interest Rate (IR): The CBN's control over the monetary supply GDP Growth: The real GDP growth rate as a gauge of the state of the economy.

MODEL SPECIFICATION

GDP was the dependent variable and a stand-in for economic growth in this study. The independent variables included inflation, money supply, interest rates, oil prices, and

exchange rate volatility.

In particular, the model is described as follows in the functional form:

GDP = f (MS, INF, EXCR, OILP, INTR) - - - - - - - (1)

This can be explicitly written in econometric form as

$GDPt = \beta_0 + \beta_1 MSt + \beta_2 INFt + \beta_3 EXCRt + \beta_4 OILPt + \beta_5 INTRt + \mu t$ - - - (2)

Where:

GDP = Gross Domestic Product

EXCR = Exchange Rate Volatility

OILP = Oil Price

INTR = Interest Rate

MS = Money Supply

μ = Error term

β_0 = Intercept of the model

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ = Coefficients of the explanatory variables.

The apriori expectation is $\beta_1 <> 0$, $\beta_2 < 0$, $\beta_3 >< 0$, $\beta_4 > 0$, $\beta_5 < 0$.

Gross Domestic Product, Oil Price, Money Supply were log-transformed while Exchange rate, Inflation rate and Interest rate were used in its natural form in other to bring all variables the same base unit.

4. RESULTS AND DATA ANALYSIS

UNIT ROOT TEST

In macroeconomic analysis, the unit root test is used to test time series data stationarity because most economic variables are dependent. The Stationarity properties of the variables included in the models were tested using the Augmented Dickey Fuller and the results are presented on Table 1.

Table 1: **Result of Unit Root Test**

Variable	ADF order of integration	0.05 ADF critical values	ADF test Statistic
GDP	I(1)	-6.8120	-2.998
MS	I(0)	-3.5184	-3.029
INF	I(1)	-5.2048	-2.998
EXCR	I(1)	-3.5890	-2.998
OILP	I(1)	-4.5639	-2.998
INTR	I(1)	-5.0780	-2.998

Source: Researcher's Computation E-Views, 10.0

The table above displays the study series' order of integration (stationarity). The ADF test showed that all series except MS was stationary at level. GDP, INF, RXCR, OILP and INTR reached stationarity at first difference after further treatment. Thus, all series were stationary at level and first differencing. Since our series were stationary at levels (1(0) and first

differencing (1(1)), we should study the long-term link between macroeconomic shocks on the stability of Nigeria's economy. The researcher used ARDL long and short run tests to verify the result.

Co-integrationm Test (Bound Test)

Bounds test was applied to determine the long-run relationship between public debt and economic growth. This is because the bounds test allows a mixture of I(0) and I(1) variables as regressors, that is, the order of integration of appropriate variables may not necessarily be the same. The following hypothesis is formulated to determine the long-run relationship between the variables

$H_0 = \beta_1 = 0$ (no long-run relationship)

Against the alternative hypothesis

$H_0 \neq \beta_1 \neq 0$ (a long-run relationship exists)

Decision Rule

If the computed F-ststistic is smaller than the lower bound value, then the null hypothesis is not rejected and it concludes that there is no long-run relationship. Conversely, if the computed F-statistic is greater than the upper bound value, then there is a long-run level relationship. On the other hand, if the computed F-statistic falls between the lower and upper bound values, then the results are inconclusive.

Table 2 Results of ARDL/Bounds Test

Test Statistic	Value	k	Significance	Critical Value Bounds	
I(0) Bound	I(1) Bound				
				Lower	Upper
F-statistic	4.787562	5	10%	2.08	3
			5%	2.39	3.38
			2.5%	2.7	3.73
			1%	3.06	4.15

Source: Researcher's Computation E-Views, 10.0

The F-statistic value of 4.787562 is higher than the 5% critical values at both I(0) and I(1). This means that we reject the null hypothesis and come to the conclusion that the variables are related over the long term. In conclusion, there is a long-term link between Nigeria's economy and the macroeconomic shocks.

Table 3: ARDL Cointegrating and Long Run Form

Cointegrating Form

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
GDP(-1)	0.122583	0.182468	0.671803	0.5107

MS	1.195941	0.649161	1.842288	0.0829
INF	0.121361	0.145017	0.836875	0.4143
EXCR	-18.72593	5.772578	-3.243945	0.0048
OILP	0.007919	0.018882	0.419384	0.6802
INTR	0.494652	0.170518	2.900877	0.0099
CointEq(-1)*	-0.877417	0.130305	-6733575	0.0000

Long Run Coefficients

Variable	Coefficient	Std. Error	t-Statistic	Prob.
MS	1.363024	0.849956	1.603641	0.1272
INF	0.138316	0.158617	0.872017	0.3953
EXCR	-21.34210	7.507943	-2.842602	0.0112
OILP	0.009025	0.021224	0.425220	0.6760
INTR	0.563759	0.209177	2.695130	0.0153
C	33.26724	12.28922	2.707026	0.0150

EC = GDP - (1.3630*MS + 0.1383*INF -21.3421*EXCR + 0.0090*OILP + 0.5638*INTR + 33.2672)

Source: Researcher's Computation E-Views, 10.0

Beginning with the long run cointegration equation, we are interested in the Error Correction model amongst other coefficients, which shows the speed of adjustment. The decision rule is that it must be negative and statistically significant for it to retain its economic interpretation. The Error Correction coefficient (cointEq-1) is evaluated at -0.8774, meaning the model corrects its previous disequilibrium at 87.74% annually. By raising macroeconomic dynamics variables at 87.74% annually, they will improve greatly over time. As the coefficient of determination is 0.6833, which is 68%, and the modified R2 is 68%, it is assumed that the independent variables in this model have determined GDP return variation to 68%. This model is also notable according to the F Probability statistic. Again, Durbin Watson Statistics showed that the model is not serially linked because its value is within the accepted range.

Table 4: Variance Inflation Factors

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
GDP(-1)	0.033295	5.342011	1.872246
MS	0.421409	52.74268	9.705985
INF	0.021030	17.05169	1.711545
EXCR	33.32265	763.5856	8.380294
OILP	0.000357	8.330004	1.244638
INTR	0.029076	57.36789	1.474641

C	99.58746	422.4986	NA

Source: Researcher's Computation E-Views, 10.0

Generally, the result from the table shows that problem of multi-collinearity is not anticipated. Though, a further test was carried out to ascertain this condition.
From the above table, the variance inflation factor of GDP is 1.8722; MS is 9.7059; INTR is 1.4746; EXCR is 8.3802, INF is 1.7115 and OILP is 1.2446 are less than 10. This shows the absence of multi-collinearity problem.

DISCUSSION OF FINDINGS

Money supply (MS) exhibit a positive relationship with the GDP, a unit increases in money supply, leads to increase in GDP by 1.3630% and statistically insignificant, this is obvious of the Nigeria economy because when the rate of money supply exceeds the quantity of goods and services produced in the economy ineffective is likely to be exerted on GDP. This finding supports Andrew and Onerhime (2024), kolapo, Oke, and Olaniyan (2018) but contradicts Akwe, Garba, Lyndon, and Gbalam (2019), Dang (2018), and John (2019).

INTR was positive in the long term, according to the study. The negative result implies that a 1% increase in INTR will lower GDP by 0.5637 (56.37%) over time. The more banks raise loan rates, the worse GDP will be in the long term. Its p-values are 0.0153, indicating long-term significance. A relatively high-interest rate regime which can lead to fall in consumer spending and investment, this will further lead to a fall in aggregate demand and subsequently a lower economic growth or even recession.
The result of EXCR indicated that 1 percent increase in exchange rate will cause GDP to decrease by 21.36% and statistically significant with p-value of 0.0112. The negative impact of exchange rate on GDP of the Nigeria economy corroborates the works of Andrew and Onerhime (2024), kolapo, Oke, and Olaniyan (2018). However, from the results a plausible explanation for the negative relationship between Exchange rate and Economic growth in the Nigeria economy stems from the ravaged exchange rate of the naira, which going by the last year and the current year witnessed a high rate of depreciation, which hampered the growth of the economy.
The regression results showed that INF negatively affected Nigerian GDP in the long-term. The unfavourable finding matches this study's initial expectations. Negative results mean 1% INF increase will only decrease GDP in Nigeria by 0.1383. Again, p-values exceed 5%. Thus, INFLR will not significantly affect GDP in Nigeria in the long term. Oil price exhibited a positive insignificant relationship with economic growth which is in conformity with the apriori expectation. A unit increase in oil price would lead to a 0.0090% increase in GDP; this is consistent with the expectation for an oil producing country like Nigeria. The p-value is greater than 5% this is because the Nigerian mono-economy, which is heavenly depended on proceeds from crude oil, corruption and mismanagement, is that changes in crude oil price whether positive or negative poses major changes and distortion to major

macroeconomic variables and the growth and development of her economy.The general F-statistic is highly significant based on the results. Variables of macroeconomic shocks on the economy of Nigeria's has significant negative impact on economic growth in Nigeria.

5. CONCLUSION AND RECOMMENDATIONS

Conclusion

The empirical findings verified that there was a negative correlation, both short-term and long-term, between Nigeria's economic growth and different macroeconomic shocks from 1999 to 2023. This suggests that supporting measures that will improve macroeconomic stability will encourage Nigeria's economy to grow. Thus, among other things, a stable macroeconomic variable is crucial to Nigeria's economic growth.

According to the study's contribution to current knowledge, monetary policy and financial deepening variable irregularities have a dampening effect on a number of macroeconomic variables, which has a negative effect on economic growth. Therefore, improving monetary policies and financial deepening variables can boost growth.

Recommendations

The study recommends as follows:
i)To boost GDP and economic growth, policymakers and regulators should control inflation and stabilize the money supply and exchange rates. Nigeria's economic growth will benefit from a balance between the money and real sectors created by a stable exchange rate, money supply, and inflation policy.
ii)To strengthen the OILP, the monetary authorities should also implement sound monetary policies. Given that oil continues to be the nation's main source of foreign exchange earnings, the effects of oil shocks on the economy are significant.
iii)Monetary authorities should work together to lower the double-high interest rate and closely monitor and control financial deepening factors like the money supply, private sector credit, and intermediation ratio in order to lower macroeconomic variable volatility and spur economic growth.

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