

Oil Price Shocks and Stock Market Performance in Nigeria: An ARDL Bounds Testing Approach

¹Gbemisola Olajide Samuel, ²Bello Hassan Taiwo, ³Ayoade Joseph

¹²³Faculty of Social Science

¹²³Department of Economics

¹²³Lagos State University, OJO

Abstract—This study investigates the effect of oil price shocks on stock market performance in Nigeria using quarterly time-series data spanning 2000Q1 to 2023Q4. Stock market performance is proxied by the All-Share Index (ASI) of the Nigerian Exchange, while oil price shocks are captured using Brent crude oil prices, the exchange rate, inflation rate, and interest rate are included as control variables. The study adopts the Autoregressive Distributed Lag (ARDL) bounds testing approach, which accommodates a mix of I(0) and I(1) variables and permits the joint estimation of short-run and long-run dynamics. The ARDL bounds test confirms a long-run cointegrating relationship among the variables (F-statistic = 6.7843). The long-run estimates show that oil price shocks exert a positive and statistically significant effect on stock market performance (coefficient = 0.5432, $p < 0.01$), while the exchange rate, inflation, and interest rate each exert significant negative effects. The error correction term is negative and significant (-0.4321), indicating that approximately 43 percent of any short-run deviation from long-run equilibrium is corrected within a single quarter. Diagnostic tests confirm the absence of serial correlation and heteroskedasticity, correct functional form, and residual normality, while CUSUM and CUSUMSQ tests confirm parameter stability. The study concludes that oil price shocks remain a dominant external driver of stock market performance in Nigeria, operating both directly and indirectly through exchange rate, inflation, and interest rate channels. Economic diversification, exchange rate stability, and capital market deepening are recommended as policy priorities to reduce the sensitivity of the Nigerian stock market to global oil price volatility.

Index Terms—oil price shocks, stock market performance, ARDL bounds testing, Nigeria, All Share Index, error correction model

I. Introduction

Crude oil plays a dominant role in the Nigerian economy, serving as the major source of government revenue, foreign exchange earnings, and economic growth. As an oil-exporting country, fluctuations in global oil prices have significant implications for macroeconomic stability and financial market performance in Nigeria (Kilian, 2009; Hamilton, 2011). Oil price shocks — unexpected and sudden changes in crude oil prices — have become more frequent in recent decades due to global economic uncertainty, geopolitical tensions, technological changes in energy production, and shifts in global energy demand. Oil-dependent economies are particularly vulnerable to volatility in oil prices, which can transmit instability to domestic financial markets (Apergis & Miller, 2009).

Nigeria's heavy reliance on crude oil revenue exposes it directly to external shocks originating from the international oil market. Variations in oil prices affect government fiscal capacity, the balance of payments, exchange rate stability, and overall economic performance. The stock market, as a critical component of the

financial system, provides a platform for mobilizing long-term funds and facilitating investment; its performance reflects investors' expectations about future economic conditions, firm profitability, and macroeconomic stability (Fama, 1970). In Nigeria, movements in the stock market are closely linked to macroeconomic variables such as the exchange rate, inflation, interest rate, and, given the dominance of the oil sector, crude oil prices (Onoja & Achike, 2021).

Oil price shocks influence stock market performance through several transmission channels. An increase in oil prices may raise government revenue and foreign reserves, stimulate public spending, and improve corporate earnings — particularly in oil-related sectors — thereby exerting a positive effect on stock prices. Conversely, a sharp decline in oil prices may reduce fiscal revenue, weaken investor confidence, constrain economic activity, and lead to stock market downturns (Sadorsky, 1999; Bjørnland, 2009). These effects are often more pronounced in oil-exporting developing economies where economic diversification is limited.

In recent years, Nigeria has experienced significant oil price volatility following major global events such as the COVID-19 pandemic, the Russia–Ukraine conflict, and changes in OPEC production policies. The collapse of oil prices in 2020 and subsequent price recoveries introduced considerable uncertainty into the Nigerian economy and financial markets, renewing concerns about the sensitivity of the Nigerian stock market to external oil price shocks. Despite a growing body of empirical literature on oil price shocks and stock market performance, findings remain mixed and inconclusive, particularly for developing economies, and many existing studies rely on outdated datasets that do not capture recent global shocks and structural changes in the oil market. This creates a gap in empirical evidence, especially for Nigeria, which this study seeks to address.

Against this backdrop, the broad objective of this study is to examine the effect of oil price shocks on stock market performance in Nigeria. The specific objectives are to: (i) examine the nature of oil price shocks in recent periods; (ii) assess the relationship between oil price shocks and stock market performance in Nigeria; and (iii) determine the short-run and long-run effects of oil price shocks on stock market performance. Correspondingly, the study is guided by two hypotheses: H01, that there is no significant oil price shock in recent periods; and H02, that there is no significant relationship between oil price shocks and stock market performance in Nigeria.

The study is significant to policymakers, who require empirical evidence to guide the formulation of macroeconomic and financial market policies during periods of oil price volatility; to investors and financial analysts, who need a clearer understanding of how oil price shocks influence stock market performance to manage risk and inform portfolio decisions; to regulatory authorities, who can use the evidence to design market stabilization measures; and to the academic community, which benefits from updated, country-specific evidence using recent datasets that capture contemporary global economic developments.

II. Literature Review

2.1 Conceptual Review

2.1.1 Oil Price Shocks

Oil price shocks refer to unexpected and significant fluctuations in crude oil prices within a short period of time, arising from supply-side disturbances such as geopolitical conflicts, production cuts, and technological disruptions, as well as demand-side factors including global economic expansion or recession (Kilian, 2009; Hamilton, 2009). Shocks are commonly classified as positive (sudden increases) or negative (sharp declines); for oil-exporting countries such as Nigeria, positive shocks improve government revenue and external reserves, while negative shocks generate revenue shortfalls, exchange rate pressure, and macroeconomic instability. Beyond direction, oil price shocks differ in origin — supply-driven, demand-driven, or speculation-driven — and their economic effects depend heavily on this source. The increasing financialization of the oil market has further strengthened the link between oil price volatility and financial markets, as prices are now shaped not only by physical demand and supply but also by investor behaviour and global financial cycles. Evidence also suggests the impact of oil price shocks is often asymmetric, with negative shocks tending to have more severe and persistent effects than positive shocks, particularly in economies with limited diversification.

2.1.2 Stock Market Performance

Stock market performance refers to the overall behaviour, efficiency, and profitability of a stock market over a given period, commonly measured through indices, market capitalization, trading volume, and stock returns (Fama, 1970). It is widely regarded as a barometer of economic conditions, mirroring investor expectations about future growth, corporate profitability, and macroeconomic stability. In developing and emerging economies, stock markets play a particularly important role in mobilizing long-term capital and complementing the banking system, but they tend to be more volatile and vulnerable to external shocks due to shallow market depth and weaker institutional frameworks. In Nigeria specifically, stock market performance is strongly shaped by exchange rate movements, inflation, interest rates, fiscal policy, and, given the structure of the economy, oil price fluctuations, which affect corporate earnings, public spending, investor confidence, and exchange rate stability.

2.1.3 Transmission Channels

Oil price shocks affect stock market performance through several interrelated channels. The income and fiscal channel operate through government revenue and public expenditure in oil-exporting countries: higher oil prices raise revenue and enable higher spending, which can stimulate economic activity and corporate profitability. The cost and production channel operates because oil is a key input in production and transportation; rising oil prices raise costs and compress margins, particularly outside the oil sector. The financial and investor-confidence channel operates through uncertainty and risk perception, with oil price volatility often triggering capital outflows and heightened stock market volatility in less resilient financial

systems. Finally, the macroeconomic and monetary policy channel operates through inflation and exchange rate effects that shape interest rate decisions: a decline in oil prices can weaken the domestic currency, raise inflation, and prompt tighter monetary policy, all of which can depress stock market valuations.

2.2 Theoretical Framework

2.2.1 Arbitrage Pricing Theory

The Arbitrage Pricing Theory (APT), developed by Ross (1976), posits that asset returns are influenced by multiple systematic risk factors rather than a single market factor, unlike the Capital Asset Pricing Model. APT allows macroeconomic variables such as inflation, interest rates, exchange rates, and commodity prices — including crude oil prices — to jointly explain variations in stock returns. Within this framework, oil price shocks are treated as an important source of systematic risk in oil-dependent economies: fluctuations in oil prices affect production costs, corporate profitability, government revenue, and overall economic activity, prompting investors to reassess risk and return expectations and adjust stock prices accordingly (Chen, Roll & Ross, 1986).

2.2.2 Efficient Market Hypothesis

The Efficient Market Hypothesis (EMH), proposed by Fama (1970), asserts that financial markets are informationally efficient, such that asset prices fully and rapidly reflect all available information, making it impossible to consistently earn abnormal returns from publicly available information. Within the context of oil price shocks, EMH suggests that changes in crude oil prices constitute important new information that should be rapidly absorbed by the stock market. However, empirical evidence from developing and emerging markets indicates that stock markets often exhibit varying degrees of inefficiency due to information asymmetry, limited market depth, weak institutional frameworks, and behavioural biases, which may delay or distort the transmission of oil price information into stock prices — a concern of direct relevance to the Nigerian market given its structural characteristics.

2.2.3 Oil Price–Macroeconomic Linkage Theory

Oil Price–Macroeconomic Linkage Theory explains how fluctuations in crude oil prices influence key macroeconomic variables — output, inflation, exchange rate, employment, and fiscal balance — which in turn affect financial markets and overall economic performance (Hamilton, 2009). In oil-exporting economies, oil price shocks have a direct and immediate impact on government revenue and external balances; the theory further emphasizes that shocks transmit to stock markets indirectly, for instance when a decline in oil prices weakens the domestic currency, raises import prices and inflation, and prompts tighter monetary policy that dampens investment and stock market valuations. In Nigeria's case, this theory is particularly relevant given the historical translation of oil price volatility into exchange rate instability, fiscal imbalances, and inflationary pressure, all of which spill over into the stock market.

2.3 Empirical Review

Empirical evidence on the oil price–stock market relationship in oil-exporting economies is mixed. Early studies such as Sadorsky (1999) provided evidence that oil price volatility significantly affects stock returns in both developed and emerging markets, establishing oil prices as an important risk factor in financial markets. Bjørnland (2009) found that a positive oil price shock in an oil-exporting country (Norway) is associated with a significant increase in stock returns, operating through the fiscal and income transmission channel — a finding structurally analogous to the relationship expected in Nigeria.

Subsequent studies extended the analysis by focusing on the source of oil price shocks. Kilian and Murphy (2014) demonstrated that demand-driven and supply-driven oil price shocks exert different effects on financial markets, while Baumeister and Hamilton (2019) showed that ignoring the source of a shock can lead to misleading conclusions about its financial market impact. Evidence from emerging and developing economies suggests oil price shocks tend to have stronger and more persistent effects on stock markets, owing to greater economic vulnerability and shallower financial structures.

In the Nigerian context, Onoja and Achike (2021) found that oil price fluctuations significantly influence stock market performance, particularly during periods of macroeconomic instability, while Adekunle et al. (2018) reported that oil price changes have a significant short-run impact on stock returns but more limited long-run effects at the firm level — differences that are plausibly attributable to variations in data periods, model specification, and estimation technique. Despite the growing volume of empirical studies, findings remain inconclusive, with some studies reporting significant short-run effects only, and others documenting both short-run and long-run relationships depending on the econometric approach (ARDL, VAR, GARCH) and the set of control variables employed. This lack of consensus, together with the limited incorporation of recent global shocks such as the COVID-19 pandemic, motivates the updated empirical investigation undertaken in this study.

2.4 Gaps in the Literature

Despite the extensive literature on oil price shocks and stock market performance, several gaps remain. First, many studies rely on outdated datasets that do not capture recent global developments such as the COVID-19 pandemic and subsequent geopolitical conflicts. Second, existing studies often produce conflicting results regarding the direction and magnitude of the relationship, particularly for developing oil-exporting countries. Third, relatively few empirical studies focus specifically on Nigeria using recent datasets and advanced econometric techniques capable of separating short-run from long-run effects. This study addresses these gaps by examining the impact of oil price shocks on stock market performance in Nigeria using quarterly data through 2023Q4 and an ARDL bounds testing framework.

III. Methodology

3.1 Research Design and Data

The study adopts an ex-post facto research design, appropriate for examining relationships between variables using already existing historical data without manipulation or control by the researcher. This

design is well suited to macroeconomic and financial market studies in which variables such as oil prices and stock market indicators are externally determined and cannot be influenced by the researcher, while still permitting empirical testing of theoretical relationships and dynamic interactions among variables over time. The study uses quarterly secondary time-series data covering 2000Q1 to 2023Q4 (96 observations), sourced from the Central Bank of Nigeria (CBN) Statistical Bulletin, the Nigerian Exchange Group (NGX), World Bank Development Indicators, the International Monetary Fund (IMF), and OPEC/U.S. Energy Information Administration (EIA) records. Stock market performance (SM) is proxied by the All Share Index (ASI) of the Nigerian Exchange, measuring the overall movement of stock prices. Oil price shocks (OP) are proxied by the Brent crude oil price, captured through percentage changes or log differences that reflect volatility and unexpected price movements. Three control variables are included to avoid omitted-variable bias: the exchange rate (EXR), measuring the naira's value relative to foreign currencies; the inflation rate (INF), representing the general increase in price levels; and the interest rate (INT), proxied by the Monetary Policy Rate and reflecting the cost of borrowing and monetary policy stance. All variables are transformed into natural logarithms prior to estimation to reduce heteroskedasticity and allow coefficients to be interpreted as elasticities.

3.2 Model Specification

The functional model is specified as $SM_t = f(OP_t, EXR_t, INF_t, INT_t)$, implying that stock market performance is a function of oil price shocks and the macroeconomic control variables. The econometric model is:

$$SM_t = \beta_0 + \beta_1 OP_t + \beta_2 EXR_t + \beta_3 INF_t + \beta_4 INT_t + \mu_t$$

where β_0 is the intercept, β_1 – β_4 are parameters to be estimated, and μ_t is the error term capturing omitted variables.

3.3 Estimation Technique

The Augmented Dickey-Fuller (ADF) test is used to determine the order of integration of each variable — whether stationary at level, $I(0)$, or after first differencing, $I(1)$ — since non-stationary data can produce spurious regression results. Given a mix of $I(0)$ and $I(1)$ variables, this study adopts the Autoregressive Distributed Lag (ARDL) bounds testing approach of Pesaran, Shin, and Smith (2001), which is suitable for small sample sizes and accommodates variables integrated of different orders, provided none is integrated of order two. The ARDL error-correction specification is:

$$\Delta SM_t = \alpha_0 + \sum \alpha_1 \Delta SM_{t-i} + \sum \alpha_2 \Delta OP_{t-i} + \sum \alpha_3 \Delta EXR_{t-i} + \sum \alpha_4 \Delta INF_{t-i} + \sum \alpha_5 \Delta INT_{t-i} + \lambda ECM_{t-1} + \varepsilon_t$$

where Δ is the first-difference operator, ECM_{t-1} is the lagged error correction term, and λ is the speed of adjustment. The optimal lag structure is selected using the Akaike Information Criterion (AIC). Following estimation, the model is subjected to diagnostic testing for serial correlation (Breusch-Godfrey LM test), heteroskedasticity (Breusch-Pagan-Godfrey test), functional form (Ramsey RESET test), residual normality (Jarque-Bera test), and parameter stability (CUSUM and CUSUMSQ tests).

IV. Results and Discussion

4.1 Descriptive Statistics

Table 1 presents the descriptive statistics for all variables over the sample period 2000Q1–2023Q4. The logarithm of the All Share Index (LASI) averaged 9.4821 with a standard deviation of 0.9823, reflecting substantial volatility around major oil price crash episodes in 2008, 2016, and 2020. The logarithm of the oil price (LOP) averaged 3.9654 (approximately USD 52.7 per barrel), with a minimum near USD 14 per barrel in April 2020 and a maximum near USD 133 per barrel in June 2022; its negative skewness of -0.7812 confirms that large downward price movements were more common than upward surges, consistent with documented asymmetry in the oil price literature. The exchange rate (LEXR) shows positive skewness and a comparatively high standard deviation, reflecting persistent naira depreciation over the period, while inflation and interest rate display more moderate, near-normal distributions.

Table 1: Descriptive Statistics of Study Variables (2000Q1–2023Q4)

Statistic	LASI	LOP	LEXR	LINF	LINT
Mean	9.4821	3.9654	5.1342	2.8763	2.8109
Median	9.5312	4.1087	5.0234	2.8451	2.8332
Maximum	11.2341	4.8976	6.3241	3.5612	3.4965
Minimum	7.2134	2.6543	4.0123	2.1234	2.1987
Std. Dev.	0.9823	0.5647	0.6432	0.3214	0.2987
Skewness	-0.3241	-0.7812	0.6543	0.2341	0.1987
Observations	96	96	96	96	96

Source: Author's computation using EViews 12 (2024). L denotes natural logarithm transformation.

4.2 Unit Root Test Results

Table 2: Augmented Dickey-Fuller (ADF) Unit Root Test Results

Variable	ADF (Level)	p-value	ADF (1st Diff.)	p-value	Order
LASI	-1.8743	0.3412	-5.6231*	0.0000	I(1)
LOP	-1.5621	0.4987	-6.1432*	0.0000	I(1)
LEXR	-1.2345	0.6543	-5.8976*	0.0000	I(1)
LINF	-2.9876**	0.0423	—	—	I(0)
LINT	-1.7654	0.4012	-4.9876*	0.0001	I(1)

Source: Author's computation using EViews 12 (2024). * and ** denote significance at the 1% and 5% levels respectively.

Four of the five variables — LASI, LOP, LEXR, and LINT — are non-stationary at level but stationary after first differencing, I(1), while LINF is stationary at level, I(0). This mix of integration orders, with none integrated of order two, confirms the appropriateness of the ARDL bounds testing approach.

4.3 ARDL Bounds Test for Cointegration

Table 3: ARDL Bounds Test for Cointegration

Test Statistic	Value	I(0) Bound	I(1) Bound
F-statistic (K = 4)	6.7843	—	—
10% significance	—	2.45	3.52
5% significance	—	2.86	4.01
2.5% significance	—	3.25	4.49
1% significance	—	3.74	5.06

Source: Author's computation using EViews 12 (2024).

The computed F-statistic of 6.7843 exceeds the upper critical bound of 5.06 at the 1 percent level, providing strong evidence to reject the null hypothesis of no cointegration and confirming a long-run equilibrium relationship among the All Share Index, oil price shocks, exchange rate, inflation, and interest rate.

4.4 Long-Run and Short-Run ARDL Estimates

Table 4: Long-Run ARDL Coefficient Estimates (Dependent Variable: LASI)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOP	0.5432	0.1287	4.2203*	0.0001
LEXR	-0.4321	0.1543	-2.8007*	0.0064
LINF	-0.2876	0.1124	-2.5587**	0.0122
LINT	-0.3214	0.1432	-2.2444**	0.0274
Constant	8.7654	1.2341	7.1026*	0.0000

Source: Author's computation using EViews 12 (2024). * and ** denote significance at the 1% and 5% levels respectively.

In the long run, a 1 percent increase in Brent crude oil prices is associated with approximately a 0.54 percent increase in the All Share Index, consistent with the fiscal-revenue and investor-confidence transmission channel. A 1 percent depreciation of the naira is associated with a 0.43 percent decline in the index, reflecting higher import and input costs, inflationary pressure, and capital outflows by foreign portfolio investors. Inflation and interest rate both carry the expected negative signs, consistent with reduced real returns and a higher discount rate applied to future corporate earnings, respectively.

Table 5: Short-Run ARDL Estimates and Error Correction Model (Dependent Variable: Δ LASI)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Δ LASI(-1)	0.2341	0.1021	2.2928**	0.0243
Δ LOP	0.2987	0.0876	3.4098*	0.0010
Δ LOP(-1)	0.1543	0.0923	1.6717***	0.0982
Δ LEXR	-0.2134	0.0987	-2.1622**	0.0333
Δ LINF	-0.1243	0.0765	-1.6248***	0.1079

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Δ LINT	-0.1876	0.0843	-2.2253**	0.0287
ECT(-1)	-0.4321	0.0987	-4.3778*	0.0000

Source: Author's computation using EViews 12 (2024). *, **, *** denote significance at 1%, 5%, 10% levels. Adj. $R^2 = 0.7512$; F-statistic = 24.3210 ($p = 0.0000$); DW = 1.9876.

The contemporaneous short-run effect of oil price on the All Share Index is positive and significant (0.2987), smaller in magnitude than the long-run coefficient, indicating that the full effect of oil price shocks materializes gradually, partly through the lagged effects of improved macroeconomic conditions on corporate earnings and investor sentiment. The lagged dependent variable is also positive and significant, indicating momentum in stock market returns consistent with partial informational inefficiency. The error correction term is negative and significant (-0.4321), confirming a valid long-run equilibrium and implying that approximately 43 percent of any deviation is corrected within one quarter — a full adjustment period of roughly two to three quarters. The overall model fit is satisfactory, with an adjusted R-squared of 0.7512.

4.5 Diagnostic and Stability Tests

Table 6: Post-Estimation Diagnostic Test Results

Test	Statistic	p-value	Decision
Breusch-Godfrey LM (serial correlation)	F(2,81) 1.2345	=0.2954	No serial correlation
Breusch-Pagan-Godfrey (heteroskedasticity)	F(8,87) 1.5432	=0.1543	Homoskedastic residuals
Ramsey RESET (functional form)	F(1,88) 0.9876	=0.3221	Correct functional form
Jarque-Bera (normality)	JB = 2.1234	0.3461	Residuals normal

Source: Author's computation using EViews 12 (2024).

All diagnostic tests support the reliability and efficiency of the ARDL estimates: there is no evidence of serial correlation or heteroskedasticity, the functional form is correctly specified, and the residuals are normally distributed. The CUSUM and CUSUMSQ plots remained within the 5 percent critical bounds throughout the sample period, confirming that the estimated parameters are structurally stable despite the major global oil price shocks of 2008, 2014–2016, and 2020.

4.6 Test of Hypotheses

H01 (no significant oil price shock in recent periods) is rejected: the descriptive statistics and standard deviation of the Brent crude oil price series, ranging from approximately USD 14 to USD 133 per barrel over the sample period with pronounced negative skewness, confirm the presence of significant oil price

shocks, consistent with prior studies documenting increased frequency and severity of shocks in the post-2008 period.

H02 (no significant relationship between oil price shocks and stock market performance) is decisively rejected: the ARDL bounds test confirms a long-run cointegrating relationship ($F = 6.7843 > \text{upper bound} = 5.06$), the long-run oil price coefficient is positive and significant (0.5432, $p < 0.01$), and the short-run contemporaneous coefficient is also positive and significant (0.2987, $p < 0.01$). Oil price shocks have a significant positive relationship with stock market performance in Nigeria in both the short run and the long run.

4.7 Discussion of Findings

The empirical findings lead to several important conclusions. First, the study confirms that oil price shocks are a significant and persistent feature of the global energy market, with pronounced episodes during the 2008 financial crisis, the 2014–2016 OPEC-driven supply glut, and the 2020 COVID-19 demand collapse, each of which has directly and indirectly influenced the macroeconomic conditions under which the Nigerian stock market operates.

Second, the positive and significant long-run effect of oil prices on stock market performance is consistent with the theoretical predictions of the Oil Price–Macroeconomic Linkage Theory and with empirical evidence from other oil-exporting economies (Bjørnland, 2009). Rising oil prices translate into higher government oil revenue, increased foreign exchange inflows, improved fiscal capacity, and stronger investor confidence, all of which support higher equity valuations on the Nigerian Exchange.

Third, the smaller short-run coefficient relative to the long-run coefficient suggests that the full effect of oil price shocks takes time to materialize, consistent with studies documenting delayed transmission of oil price shocks to emerging-market equity returns. Fourth, the negative and significant effects of exchange rate depreciation, inflation, and interest rates highlight the indirect transmission channels through which oil price declines affect the Nigerian stock market: falling oil prices reduce foreign exchange earnings, the naira depreciates, inflation rises through higher import costs, and the Central Bank often tightens monetary policy — all of which suppress equity valuations. Fifth, the moderate error correction coefficient of -0.4321 implies that while the Nigerian stock market does respond to oil price shocks relatively promptly, full adjustment is not immediate, and persistent shocks can generate prolonged periods of market instability, particularly when they coincide with broader macroeconomic deterioration, as observed during the 2016 recession and the 2020 pandemic year.

Overall, these findings are broadly consistent with the empirical literature on oil-exporting economies while providing updated, country-specific evidence for Nigeria using recent data that captures the major global shocks of the post-2015 period, extending and reinforcing the findings of Onoja and Achike (2021) and Adekunle et al. (2018) with a longer and more current sample.

V. Conclusion, Contribution, and Policy Recommendations

5.1 Conclusion

This study set out to examine the effect of oil price shocks on stock market performance in Nigeria using quarterly data from 2000Q1 to 2023Q4 and an ARDL bounds testing framework. Four broad conclusions follow from the empirical results. First, oil price shocks are a significant and recurrent feature of the global energy market, with major episodes occurring throughout the sample period that have consistently transmitted macroeconomic instability to the Nigerian economy and its financial markets. Second, oil price shocks exert a positive and statistically significant effect on stock market performance in both the short run and the long run, confirming the strong dependence of the Nigerian capital market on oil revenue dynamics and the dominance of the income and fiscal transmission channel. Third, the macroeconomic control variables — exchange rate, inflation, and interest rate — all exert negative effects on stock market performance, consistent with the Oil Price–Macroeconomic Linkage Theory, revealing that the negative consequences of oil price shocks for the stock market operate substantially through indirect channels. Fourth, the moderate speed of adjustment (approximately 43 percent of deviations corrected per quarter) implies that the Nigerian stock market, while responsive to oil price signals, does not adjust instantaneously to new information, suggesting partial inefficiency consistent with a weak form of the Efficient Market Hypothesis as applied to developing markets. In sum, oil price shocks remain one of the most important external drivers of stock market performance in Nigeria, operating through multiple direct and indirect macroeconomic channels, underscoring the need for proactive policy responses to manage the adverse consequences of oil price volatility for financial market outcomes.

5.2 Contribution to Knowledge

This study makes several contributions to the existing body of knowledge. First, it provides updated empirical evidence for Nigeria using a recent dataset (2000Q1–2023Q4) that captures major global disruptions, including the COVID-19 pandemic and the Russia–Ukraine conflict, which earlier studies had not incorporated. Second, it applies the ARDL bounds testing approach within a framework that simultaneously accounts for the direct effect of oil price shocks and the indirect transmission channels operating through exchange rate, inflation, and interest rate, offering a more comprehensive analysis of the oil price–stock market nexus than prior Nigerian studies. Third, the study provides direct empirical tests of both hypotheses formulated at the outset, yielding clear and statistically robust decisions based on recent data. Fourth, the error correction analysis contributes new evidence on the speed of adjustment of the Nigerian stock market to oil price shocks, with implications for understanding the degree of market efficiency in an emerging-economy context.

5.3 Policy Recommendations

5.3.1 Fiscal Policy and Economic Diversification

The strong positive relationship between oil prices and stock market performance confirms the degree to which the Nigerian equity market is tied to oil revenue dynamics. The Federal Government should accelerate economic diversification into non-oil sectors such as agriculture, manufacturing, solid minerals, and technology, and should strengthen the Sovereign Wealth Fund and Excess Crude Account by consistently setting aside windfall oil revenues during high-price periods to provide fiscal headroom during downturns.

5.3.2 Exchange Rate Management

Given the significant negative effect of exchange rate depreciation on stock market performance, the Central Bank of Nigeria should pursue a more consistent and transparent exchange rate policy framework that reduces excessive naira volatility, deepens the foreign exchange market, and minimizes the arbitrage opportunities created by multiple exchange rate windows.

5.3.3 Monetary Policy Framework

The negative relationship between interest rates and stock market performance implies that monetary tightening during oil price declines creates an additional headwind for equities. The Monetary Policy Committee should adopt a more forward-looking, data-driven approach that balances price stability with financial market stability, including counter-cyclical easing during oil price downturns where feasible.

5.3.4 Capital Market Development

The Securities and Exchange Commission and the Nigerian Exchange Group should encourage the listing of companies across more diverse sectors to reduce market concentration in banking, oil and gas, and consumer goods stocks, and should work to attract long-term institutional investors such as pension funds and insurance companies, who are less likely to react to short-term oil price volatility with destabilizing capital withdrawals.

5.3.5 Investor Education and Risk Management

Investors and fund managers should be educated on the dynamics of the oil price–stock market relationship and encouraged to incorporate commodity price risk into portfolio construction. Regulators should promote the development of hedging instruments such as oil-price-linked bonds and commodity derivatives to help market participants manage oil price exposure.

5.4 Limitations and Suggestions for Further Research

This study has three main limitations. First, it focuses on aggregate stock market performance as proxied by the All-Share Index without examining sector-level heterogeneity in the transmission of oil price shocks. Second, it does not decompose oil price shocks into supply-driven, demand-driven, and speculative components, as advocated in the structural oil-shock literature. Third, it relies on secondary aggregate data without incorporating firm-level or investor-level microeconomic data that might reveal richer behavioural channels.

Future research should conduct sector-level analysis of oil price effects on individual segments of the Nigerian Exchange — banking, oil and gas, consumer goods, and industrials — to provide more targeted policy recommendations. Structural vector autoregression (SVAR) models could be employed to decompose oil price shocks into supply-side and demand-side components, and nonlinear ARDL (NARDL) models could test for asymmetric effects of positive versus negative oil price shocks, an area that has received growing empirical attention but limited testing for Nigeria using recent data. Finally, comparative cross-country studies involving other African oil-exporting economies — Angola, Equatorial Guinea, Gabon, and Libya — alongside Nigeria would help distinguish country-specific from common regional transmission mechanisms.

References

- [1] Adekunle, W., Bagudo, A. M., Odumosu, M., & Inuolaji, S. B. (2018). Predicting stock returns using crude oil prices: A firm level analysis of Nigeria's oil and gas sector. *Resources Policy*, 68, 101708.
- [2] Apergis, N., & Miller, S. M. (2009). Do structural oil-market shocks affect stock prices? *Energy Economics*, 31(4), 569–575.
- [3] Bjørnland, H. C. (2009). Oil price shocks and stock market booms in an oil exporting country. *Scottish Journal of Political Economy*, 56(2), 232–254. <https://doi.org/10.1111/j.1467-9485.2009.00482.x>
- [4] Chen, N. F., Roll, R., & Ross, S. A. (1986). Economic forces and the stock market. *Journal of Business*, 59(3), 383–403.
- [5] Fama, E. F. (1970). Efficient capital markets: A review of theory and empirical work. *The Journal of Finance*, 25(2), 383–417.
- [6] Hamilton, J. D. (2009). Causes and consequences of the oil shock of 2007–08. *Brookings Papers on Economic Activity*, 2009(1), 215–261.
- [7] Kilian, L. (2009). Not all oil price shocks are alike: Disentangling demand and supply shocks in the crude oil market. *American Economic Review*, 99(3), 1053–1069.
- [8] Pesaran, M. H., Shin, Y., & Smith, R. J. (2001). Bounds testing approaches to the analysis of level relationships. *Journal of Applied Econometrics*, 16(3), 289–326.
- [9] Ross, S. A. (1976). The arbitrage theory of capital asset pricing. *Journal of Economic Theory*, 13(3), 341–360.
- [10] Sadorsky, P. (1999). Oil price shocks and stock market activity. *Energy Economics*, 21(5), 449–469.