

IMPACT OF CRUDE OIL PRICE FLUCTUATIONS ON SELECTED SECTORAL STOCK RETURNS IN NIGERIA

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Abstract

Crude oil continues to play a defining role in Nigeria's economic and financial landscape, influencing investor behaviour, foreign exchange inflows, and government revenue. Yet the extent to which changes in global oil prices affect different sectors of the Nigerian stock market remains insufficiently understood. This study investigates how crude oil price movements shape returns in three key NGX sectoral indices—the Oil and Gas, Banking, and Consumer Goods indices—and considers whether exchange rate fluctuations alter these relationships. Using an ex-post facto design, the study draws on data from the CBN Statistical Bulletin and the Nigerian Exchange Group covering 2009–2024. The analytical framework includes descriptive statistics, ADF unit root testing, Johansen Cointegration, VAR modelling, impulse response functions, and Seemingly Unrelated Regression (SUR) estimation. The results show that oil price changes have a significant impact on the Oil and Gas and Consumer Goods indices, while the Banking Index shows no meaningful response. These findings highlight the need for investors, portfolio managers, and policymakers to closely monitor global oil price patterns alongside exchange rate movements when evaluating market risks and shaping investment or macroeconomic strategies.

Keywords: Crude oil price; Exchange rate; Nigeria; Sectoral Stock Returns; Seemingly Unrelated Regression (SUR).

Introduction

Crude oil, widely regarded as the lifeblood of modern industry, remains a dominant driver of global economic performance and macroeconomic stability (Bashir, 2022). Over the past two decades, oil prices have fluctuated sharply—rising steeply in the early 2000s, collapsing after the 2008 global financial crisis, recovering above \$100 per barrel by 2011, and dropping to historic lows in 2016 before climbing again above \$70 in 2022 (Alamgir & Amin, 2021; Babatunde et al., 2022). These swings have had far-reaching implications for firms' operational costs, profit margins, and ultimately, asset valuations. As crude oil increasingly serves not only as an energy source but also as a speculative and hedging instrument, its volatility now feeds directly into financial markets, amplifying fluctuations in equity prices and investor sentiment (Hashmi et al., 2022).

Fluctuations in crude oil prices affect multiple industries, particularly energy, transport, and manufacturing, thereby creating ripple effects on stock market performance (Jouini, 2023). Studies from advanced economies suggest that oil price movements don't hit every stock market—or even every sector—the same way. Sectors in the US, the UK, and broader European markets often respond quite differently when oil prices rise or fall (Obi et al., 2023). Hamilton (2019) also highlights oil's pivotal role in business cycles and its transmission to equity markets through changes in production costs and consumer demand. Because crude oil trades on international markets, shifts in its price tend to ripple through economies everywhere. The effects are especially pronounced in countries that rely heavily on oil revenues—most notably parts of the Middle East and Africa—where changes in global oil prices often translate directly into noticeable movements in sector-level stock performance (Managi, et al., 2022).

Across much of Africa, where many countries still depend heavily on exporting natural resources, movements in global oil prices tend to spill over quickly into local financial markets. In places like Nigeria, Angola and Algeria, researchers have consistently found that fluctuations in oil revenue shape the performance of several key stock market sectors (Akachukwu & Aregbeyen, 2023). Evidence also shows that swings in oil prices filter into banking, manufacturing and consumer-goods stocks, often heightening uncertainty and making domestic markets more fragile (Adebayo et al., 2020; Sahu et al., 2021).

In this sense, oil serves as both an engine of expansion and a channel through which volatility spreads across African capital markets (Adeleke et al., 2019; Mensah et al., 2021). Nigeria is perhaps the clearest example: as the continent's biggest crude producer, the country still relies on oil for more than four-fifths of its export earnings and for most of its public revenue (CBN, 2022). In 2022, crude oil contributed approximately 87% of government revenue, 37% of GDP, and over 90% of foreign exchange earnings. Despite its classification as one of Africa's "frontier markets" (Magnusson & Wydick, 2022), the Nigerian capital market remains highly exposed to oil price shocks transmitted through macroeconomic channels such as inflation, exchange rate movements, and interest rate adjustments (Hashmi et al., 2022). When global oil prices rise, foreign exchange inflows strengthen the naira, while price declines erode reserves and trigger depreciation, transmitting shocks to equity performance (Olayemi & Ezeaku, 2023; Ogundipe et al., 2022). These dynamics shape investor confidence and sectoral profitability, particularly in oil-sensitive industries (Okonkwo et al., 2022).

The Nigerian Exchange (NGX) provides a sectoral breakdown through indices such as Oil & Gas, Banking, and Consumer Goods, allowing closer analysis of industry-specific responses to oil price fluctuations. The Oil & Gas Index, comprising firms directly engaged in petroleum exploration and marketing, reacts most immediately to global price swings (Ogbonna & Olayemi, 2021). However, indirect effects also emerge: the Banking Index is influenced through interest rate and liquidity channels (Ibrahim & Bawa, 2019), while the Consumer Goods Index suffers from inflation-induced declines in purchasing power (Okonkwo & Chigbu, 2022). Hence, oil price volatility reverberates across the broader economy, influencing both production costs and consumer demand.

Recent data further illustrate Nigeria's continued reliance on crude oil. In 2024, the country produced about 566.8 million barrels of crude oil and condensate—averaging 1.55 million barrels per day—with over 90% exported (Tembelo & Ozyesil, 2024). Although the Dangote Refinery and Port Harcourt Refining Company resumed partial operations, Nigeria still imported more than 2.3 billion litres of petrol between September and December 2024 (Anyaoagu, 2024). The Nigerian economy still leans heavily on crude oil, and this creates a

kind of built-in exposure: whenever global oil prices shake, the capital market often feels it almost immediately. In that light, examining how swings in crude oil prices filter into different sectoral stock returns becomes particularly important. The NGX plays a central role here—not just as a hub for raising long-term funds, but also as a space where investors spread their risks and where broader economic conditions tend to show up clearly. Consequently, this study examines how variations in crude oil prices shape sectoral stock performance in Nigeria, with particular focus on the mechanisms through which oil price volatility transmits shocks across sectors of the Nigerian Exchange.

Statement of the Problem

The stock market plays a vital role in channeling funds between businesses and investors, yet its efficiency in Nigeria is often undermined by the volatility of crude oil prices, which heightens uncertainty in stock returns (Ehiedu et al., 2022). Frequent oil price fluctuations distort market valuation—sometimes inflating or deflating actual stock worth—largely because Nigeria’s economy remains heavily dependent on oil revenues, with annual budgets pegged to projected oil prices (Ehiedu, 2022). The absence of a well-developed derivatives market leaves firms without adequate hedging mechanisms, suggesting that oil price risk premiums may already be priced into Nigerian equities (Alamgir & Amin, 2021).

The global oil market’s instability, driven by geopolitical tensions, OPEC decisions, and events like the COVID-19 pandemic, has intensified uncertainty in Nigeria’s macroeconomic environment (Kilian & Zhou, 2020). While it is clear that oil price movements influence the oil and gas sector directly, their indirect effects—through inflation, exchange rate fluctuations, and shifts in consumer demand—on non-oil sectors such as manufacturing, banking, and services are less understood (Oyelami et al., 2020). This limited empirical insight restricts investors’ ability to accurately assess risk and diversify portfolios across sectors. Treating the Nigerian stock market as a uniform entity oversimplifies these dynamics, obscuring the uneven ways oil price shocks affect different sectors. Such an approach risks undermining ongoing efforts toward economic diversification, a key policy response to the country’s recurrent oil revenue shortfalls (NBS, 2022). Complicating matters further, structural weaknesses—like Nigeria’s narrow export base and high import dependence—make the naira particularly susceptible to external shocks, amplifying exchange rate volatility and masking the true impact of oil price shifts on stock performance (Adegbite & Akano, 2020; Bakare et al., 2022; Emenike & Ezeabasili, 2023).

Despite growing global research on oil–stock market linkages, most studies have focused on advanced or emerging economies outside Nigeria (Alamgir & Amin, 2021; Hashmi et al., 2022; Bashir, 2022). The few that exist locally often treat the market in aggregate terms, neglecting the sectoral distinctions critical for informed policymaking and investment strategy. This study therefore addresses that gap by examining how crude oil price fluctuations influence sectoral stock returns within the Nigerian context.

Research Hypotheses

The following research hypotheses guided the study:

- H0₁: Crude oil price has no significant effect on NGX oil and gas index in Nigeria.
- H0₂: There is no significant impact of crude oil price on NGX banking index in Nigeria.
- H0₃: Crude oil price has no significant impact on NGX consumer goods index in Nigeria.

The rest of this paper was structured as follows: Section 2 reviewed relevant literature and empirical studies; Section 3 outlined the research methodology; Section 4 presented and discussed the findings; and Section 5 concluded with policy recommendations.

Literature Review

Crude Oil Price Fluctuations

Crude oil, a naturally occurring hydrocarbon mixture derived from decomposed organic matter, remains the world's most important energy source and a central driver of industrial and economic activity (Chen, 2020; Speight, 2020). Its composition—mainly alkanes, cycloalkanes, and aromatic hydrocarbons—varies by location, leading to different classifications such as light or heavy crude (Agbogun & Ehiedu, 2022). In Nigeria, the discovery of oil in Oloibiri in 1956 reshaped the economy, generating government revenues, jobs, and foreign exchange but also creating heavy dependence on a single commodity (Ighosewe et al., 2019; Obi & Ifelunini, 2019). Global supply-demand imbalances, geopolitical shocks, and speculative trading continue to drive oil price volatility (Arezki & Blanchard, 2017). Fluctuations in oil prices often generate uncertainty that discourages investment, affects corporate profitability, and influences broader economic performance (Chen & Hsu, 2016). The International Energy Agency (IEA, 2021) reports that oil still accounts for about 31% of global energy use, underscoring its enduring significance. However, in oil-dependent economies like Nigeria, the “resource curse” remains evident—where vast oil wealth coexists with underdevelopment, environmental degradation, and fiscal vulnerability (Obaro et al., 2022; Obi & Ehiedu, 2020).

Sectoral Stock Returns

Sectoral stock returns measure the percentage gain or loss investors earn from stocks in specific sectors after accounting for dividends and price changes (Iwayan & Anom, 2020). They provide insight into how different industries respond to macroeconomic shifts and market policies (Hartono et al., 2023). Returns derive from two main components: dividend income and capital appreciation, both influenced by investor sentiment, company performance, and market volatility (Ligocká & Stavárek, 2019). Because sectoral returns reveal how shocks—such as oil price movements, policy changes, or inflation—impact individual sectors differently, they are useful for portfolio diversification and policy analysis (Odey et al., 2023). Stock returns, however, are inherently unpredictable, following a “random walk” pattern and reacting to both domestic disturbances and global events such as recessions or natural disasters.

NGX Oil & Gas Index

This index tracks the performance of oil and gas firms listed on the Nigerian Exchange, such as Seplat, Oando, and Total Energies (Adebayo & Aluko, 2020). Studies show a strong correlation between global oil prices and this index, as price shocks directly influence profitability, investment flows, and investor confidence (Olayungbo & Akinbobola, 2021; Uchenna & Ojiako, 2022). Domestic factors like pipeline vandalism, regulatory delays, and insecurity also depress performance (Okonjo-Iweala & Ezenwa, 2020). While the Petroleum Industry Act (PIA) of 2021 improved policy clarity, persistent fiscal and governance issues continue to limit investor optimism (Nwaolisa & Kasie, 2021).

NGX Banking Index

The NGX Banking Index reflects the market performance of Nigeria's banking sector and serves as a barometer for financial stability. It responds strongly to changes in interest rates, inflation, exchange rates, and monetary policy (Oloko, 2018; Adeleke & Ogundipe, 2020). In oil-driven economies like Nigeria, falling oil prices can weaken banks through reduced government deposits, lower foreign reserves, and slower credit growth (Ibrahim & Bawa, 2019). The index's sensitivity to CBN policy decisions makes it an important gauge of systemic risk, especially during crises (Nwakanma & Nnamdi, 2021).

NGX Consumer Goods Index

Capturing the performance of FMCG companies such as Nestlé and Nigerian Breweries, this index mirrors consumer demand and inflationary pressures (Akinmulegun & Ogunmuyiwa, 2020). Its movements are closely tied to household income and exchange rate fluctuations, as many firms rely on imported raw materials (Eze & Obi, 2022; Adeniran & Soyinka, 2021). High inflation, subsidy removals, and currency depreciation tend to dampen spending and shrink profit margins, while digital transformation and local product innovation are reshaping competition (Oke & Okonkwo, 2022; Ogunleye & Bakare, 2022).

Empirical Review

The Impact of Crude Oil Price on NGX Oil and Gas Index in Nigeria

Empirical findings on the oil-stock nexus in Nigeria and beyond remain largely mixed. Tembelo and Ozyesil (2024), examining OECD countries from 2000–2022, found a strong positive link between oil prices and stock returns, underscoring oil's significance in driving market performance. Similarly, Akachukwu and Aregbeyen (2023) reported that oil price asymmetries significantly affect Nigerian sectoral returns, with the oil and gas, finance, and consumer goods sectors reacting positively to price shocks, suggesting that sectoral strategies must adjust to oil volatility. In contrast, Anyalechi et al., (2019) discovered that oil price changes exerted only a positive but insignificant effect on Nigeria's stock market returns in both the short and long run, implying a limited direct transmission of oil price fluctuations to market outcomes. Taken together, the literature suggests that while oil prices can drive market movements, their influence on Nigeria's oil and gas index may be moderated by structural and domestic market dynamics.

The Impact of Crude Oil Price on NGX Banking Index in Nigeria

Studies examining crude oil price effects on Nigeria's banking sector reveal varying results. Obi et al. (2023) observed that oil price fluctuations negatively and significantly influenced the agricultural and telecommunications sectors but positively impacted manufacturing, indicating that oil's effect is sector-dependent and that diversification remains vital. Onyeka et al. (2020), using sectoral indices from 2010–2018, found that precautionary oil demand shocks had negative and significant effects on most sectors, including banking, whereas oil supply shocks were largely insignificant. Together, these studies highlight that while crude oil shocks transmit differently across sectors, Nigeria's banking sector tends to experience adverse effects from oil volatility, particularly under conditions of demand uncertainty and macroeconomic imbalance.

The Impact of Crude Oil Price on NGX Consumer Goods Index in Nigeria

Evidence on the link between oil prices and consumer goods returns also diverges. Ehiedu et al., (2023) found that crude oil shrinkage—proxied by oil price, inflation, exchange rate, and balance of trade—had a strong and positive impact on Nigeria’s stock market returns between 2000 and 2020, suggesting that oil revenue could be a key driver of consumer market performance if efficiently utilized. However, Ojikutu et al., (2017) argued otherwise, finding that crude oil price volatility had no significant effect on stock market performance despite explaining over half of its variation, implying that oil’s influence might be indirect and mediated by other macroeconomic forces. Obi et al. (2023) provided a middle ground, showing mixed long-run effects across sectors, with some benefiting from oil price increases while others declined. Overall, studies indicate that the consumer goods index may benefit from oil-driven liquidity, but its growth is constrained by Nigeria’s macroeconomic structure and dependence on imported goods.

Materials and Method

The study employed an ex-post facto research design, justified by its reliance on data that cannot be manipulated, consistent with similar studies (Ijaola & Inusa, 2024; Maniru et al., 2024; Obisesan et al., 2024). Data were gathered through document and content analysis of secondary sources, specifically financial reports from the Central Bank of Nigeria (CBN) and the Nigerian Exchange Group (NGX) spanning 2009–2024. This approach was chosen because secondary data offer credible, long-term datasets necessary for identifying trends, correlations, and causal relationships between crude oil prices and sectoral stock returns in Nigeria. This study adapted existing econometric model of Adaramola & Dada (2020). As shown below;

$$RGDP = f(INFR, INTR, EXGR, DOP, MS, GCE)$$

The adapted model will be remodified to suit this study. The mathematical form of the model is specified in a functional relationship as follows;

$$SSR = f(COP) \tag{1}$$

The above can be rewritten implicitly as

$$NGXOGI = \beta_0 + \beta_1 COP + U_t \tag{2}$$

$$NGXB I = \beta_0 + \beta_1 COP + U_t \tag{3}$$

$$NGXC GI = \beta_0 + \beta_1 COP + U_t \tag{4}$$

Where:

- COP = Crude Oil Price (Independent Variable)
- SSR = Sectoral Stock Return (Dependent Variable)
- NGXOGI = NGX Oil & Gas Index (Proxy of SSR)
- NGXB I = NGX Banking Index (Proxy of SSR)
- NGXC GI = NGX Consumer Goods Index (Proxy of SSR)
- β_0 = autonomous intercept
- μ_{it} = Error term for each equation, assumed to be correlated across sectors

The model is expressed in natural log to make it easier to be estimated using the ordinary least square method which assumes a linear relationship between variables.

Apriori Expectation

Crude Oil Price is expected to have a positive relationship with sectoral stock returns (measured by NGXOGI, NGXB I, and NGXC GI). A rise in crude oil prices is expected to lead to higher NGXOGI, NGXB I, and NGXC GI, thereby boosting sectoral stock returns.

Thus, the *a priori* expectation is stated symbolically as: β_1, β_2 and $\beta_3 > 0$.

Results and Discussion

Descriptive Statistics

Table 1: Summary of Descriptive Statistics

	COP	NGXBI	NGXCGI	NGXOGI	REER
Mean	77.12813	24.10740	26.61051	41.31718	110.1063
Median	75.40500	18.07324	21.97335	24.52119	113.2400
Maximum	111.6300	109.4598	83.78489	159.0711	133.1900
Minimum	41.96000	0.277317	0.059395	0.082567	63.86000
Std. Dev.	23.67714	29.26365	23.43761	45.97532	16.29320
Skewness	0.111235	1.982297	0.812571	1.420335	-1.365772
Kurtosis	1.770446	6.050069	3.135304	3.975982	5.131436
Jarque-Bera	1.040863	16.68062	1.772931	6.014634	8.002904
Probability	0.594264	0.000239	0.412110	0.049424	0.018289
Sum	1234.050	385.7183	425.7682	661.0749	1761.700
Sum Sq. Dev.	8409.104	12845.41	8239.826	31705.94	3982.024
Observations	16	16	16	16	16

Source: Researcher’s computation with the aid of E-View 10 (2025).

From Table 1, the descriptive statistics reveal that the study is based on 16 observations. The summary covers the key features of both the dependent and independent variables, including their mean values, standard deviations, and distributional properties such as skewness and kurtosis. Across the sample, crude oil prices averaged 77.12813, with a standard deviation of 23.67714. The NGX Banking Index recorded an average of 24.10740, accompanied by a standard deviation of 29.26365. For the NGX Consumer Goods Index, the mean stood at 26.61051, with variability captured by a standard deviation of 23.43761. The NGX Oil and Gas Index had a mean of 41.31718 and a relatively larger dispersion, reflected in its 45.97532 standard deviation. Lastly, the real effective exchange rate (REER) averaged 110.1063, with a standard deviation of 16.29320.

Regarding distributional shape, all skewness values fall within the conventional -2 to $+2$ threshold, suggesting that none of the variables exhibit problematic asymmetry. Although the kurtosis values deviate from zero for most series—indicating distributions that are somewhat more peaked than the normal curve—they remain within acceptable bounds for economic and financial data.

Stationarity Test

Table 2: Unit Root Test Result

Variable	ADF Statistics	Critical value @5%	Level of Stationarity
COP	-3.653904	-3.119910	I(1)
NGXOGI	-4.726101	-3.098896	I(1)
NGXBI	-6.234043	-3.098896	I(1)
NGXCGI	-5.033673	-3.098896	I(1)
REER	-1.892602	-3.119910	I(1)

Source: Researcher’s computation with the aid of E-View 10 (2025).

A unit root test was carried out using the Augmented Dickey–Fuller (ADF) approach to check whether the time–series variables in the model were stationary or not. As shown in

Table 2, none of the variables were stationary in their levels form. However, once they were differenced once, all of them satisfied the stationarity requirement, indicating that they are integrated of order one, I(1). For example, the ADF statistic for crude oil price (COP) at first difference is -3.6539 , which is more negative than the 5% critical value of -3.1199 . This allows us to reject the null hypothesis of a unit root. A similar pattern appears for the NGX Oil and Gas Index (NGXOGI), NGX Banking Index (NGXBI), and NGX Consumer Goods Index (NGXCGI), which recorded ADF values of -4.7261 , -6.2340 , and -5.0337 , respectively. Each of these test statistics exceeds the corresponding 5% critical threshold in the negative direction, confirming their stationarity after first differencing. In contrast, the real effective exchange rate (REER) did not show stationarity at levels, as its ADF value (-1.8926) is less negative than the -3.1199 critical value at the 5% level. Once differenced, however, REER also met the stationarity condition, placing it in the I(1) category.

Vector Autoregression (VAR)

Table 3: Vector Autoregression (VAR) Estimates

Variable	COP Coefficient (t-stat)	NGXOGI Coefficient (t-stat)	NGXBI Coefficient (t-stat)	NGXCGI Coefficient (t-stat)
COP(-1)	0.727224 [1.8359]	1.420458 [1.5685]	0.682207 [0.8295]	0.943508 [1.7136]
COP(-2)	-0.527990 [-1.5391]	1.133146 [1.4448]	-0.223377 [-0.3136]	-0.111178 [-0.2331]
NGXOGI(-1)	0.044792 [0.1945]	-0.195701 [-0.3717]	0.040023 [0.0837]	-0.111692 [-0.3489]
NGXOGI(-2)	-0.195004 [-0.7335]	-0.627790 [-1.0329]	0.120454 [0.2182]	-0.081222 [-0.2198]
NGXBI(-1)	-0.688367 [-1.5830]	0.114843 [0.1155]	0.073617 [0.0815]	0.214024 [0.3541]
NGXBI(-2)	-0.395175 [-0.8493]	0.711232 [0.6686]	0.200015 [0.2071]	0.133155 [0.2059]
NGXCGI(-1)	1.100496 [1.7998]	0.232999 [0.1667]	-0.635490 [-0.5006]	-0.151695 [-0.1785]
NGXCGI(-2)	-0.189709 [-0.3254]	-2.875588 [-2.1574]	-0.975456 [-0.8059]	-0.884926 [-1.0920]
Constant (C)	65.66978 [2.2571]	-93.80321 [-1.4102]	15.12550 [0.2504]	-18.34731 [-0.4537]

Table 4: Model Summary Statistics

Statistic	COP	NGXOGI	NGXBI	NGXCGI
R-squared	0.7687	0.6803	0.3635	0.5148
Adjusted R-squared	0.3986	0.1689	-0.6548	-0.2616
Standard Error (S.E.)	19.4141	44.3848	40.3056	26.9852
F-statistic	2.0770	1.3301	0.3570	0.6631
Akaike AIC	9.0260	10.6798	10.4870	9.6846
Schwarz SC	9.4368	11.0906	10.8978	10.0954

Source: Researcher's computation with the aid of E-View 10 (2025).

The VAR results show that changes in crude oil prices have a generally positive, though statistically weak, short-run impact on sectoral stock returns in Nigeria—particularly in the oil and gas, banking, and consumer goods sectors. The oil and gas index is most responsive to

oil price movements, while the banking and consumer goods indices display weaker predictive patterns, implying their dependence on other macroeconomic forces like interest rates or inflation. Spillover effects from the consumer goods sector negatively influence the oil and gas sector, reflecting how broader demand pressures can dampen energy performance. Overall, crude oil price remains a key driver of sectoral stock dynamics in Nigeria, though its influence varies in strength across different sectors.

Seemingly Unrelated Regression (SUR)

Table 5: Summary of SUR Estimation Results

Equation	Variable	Coefficient	Std. Error	t-Statistic	Prob.	R ²	Adj. R ²	D-W Stat
NGXOGI	C(1) Constant	152.1240	65.1128	2.3363	0.0247	0.4177	0.3281	1.4551
	COP	0.7424	0.3709	2.0014	0.0523			
NGXBI	C(4) Constant	53.5372	53.7264	0.9965	0.3252	0.0214	-0.1291	2.5057
	COP	-0.0076	0.3061	-0.0248	0.9804			
NGXCGI	C(7) Constant	70.0519	35.8909	1.9518	0.0582	0.3192	0.2144	2.5007
	COP	0.3613	0.2045	1.7673	0.0850			

Source: Researcher’s computation with the aid of E-View 10 (2025).

The study applied a Seemingly Unrelated Regression (SUR) framework to explore how movements in crude oil prices (COP) shape the behaviour of three key Nigerian stock market sectors—the Oil and Gas Index (NGXOGI), the Banking Index (NGXBI), and the Consumer Goods Index (NGXCGI)—covering the period from 2009 to 2024.

For the Oil and Gas Index, crude oil prices show a clearly positive relationship. The coefficient of 0.7424 (significant at the 10% level, $p = 0.0523$) suggests that when oil prices rise by one unit, the NGXOGI tends to move up by roughly 0.74 units. This result is intuitive given how tightly the firms in this sector are tied to global oil price dynamics. With an R² of 0.418, crude oil prices alone account for about 42% of the index’s movements, which is reasonably strong for a single explanatory variable.

The Banking Index tells a very different story. Here, the coefficient on crude oil prices is -0.0076, with a p -value of 0.9804, making the relationship statistically insignificant by any conventional standard. The explanatory power is also weak—an R² of 0.021 and a negative adjusted R²—indicating that oil prices contribute almost nothing to understanding shifts in NGXBI. This aligns with how the Nigerian banking sector generally behaves: it responds more to monetary policy decisions, credit cycles, regulatory changes, and domestic macroeconomic conditions than to swings in crude oil markets.

For the Consumer Goods Index, the results fall somewhere in between. Crude oil prices are positively associated with NGXCGI, with a coefficient of 0.3613, and the relationship is marginally significant at the 10% level ($p = 0.0850$). This hints that rising oil prices can indirectly boost consumer-facing industries, possibly through improved government revenues, household income effects, or broader demand spillovers. The R² of 0.319 shows that crude oil prices explain around **32%** of the index’s variation.

Discussion of Findings

The analysis for the first hypothesis shows that crude oil prices play a meaningful role in shaping movements in the NGX Oil and Gas Index. The coefficient for crude oil price (0.7424), together with its t-value (2.0014) and borderline-significant p-value (0.0523), points

toward a strong and positive link between global oil prices and stock performance in Nigeria's oil-linked firms. This pattern echoes the work of Tembalo and Ozyesil (2024), who also documented a robust positive relationship between oil prices and equity returns in oil-dependent sectors. A similar conclusion was reached by Akachukwu and Aregbeyen (2023), who showed that changes in oil prices—whether upward or downward—tend to produce asymmetric but consistently strong reactions within the oil and gas sector. Put together, these findings demonstrate that the NGX Oil and Gas Index is highly sensitive to global crude market movements, with price swings feeding directly into the sector's stock performance.

The evidence from the second hypothesis points in a very different direction. Here, crude oil price changes were not found to significantly influence the NGX Banking Index, as reflected in the negligible coefficient (-0.0076), very low t-value (-0.0248), and extremely high p-value (0.9804). This aligns well with the findings of Obi et al. (2023), who reported that oil price fluctuations were largely irrelevant for the banking and telecommunications sectors. Onyeka et al., (2020) reached a similar conclusion, noting that the banking sector exhibits weak or inconsistent long-run responses to oil shocks. Taken together, the evidence suggests that banking-sector performance in Nigeria is shaped far more by credit conditions, monetary policy, regulatory pressures, and internal sector dynamics than by what happens in global oil markets.

For the third hypothesis, the results show that crude oil prices have a meaningful effect on the NGX Consumer Goods Index (coefficient = 0.3613 , t-value = 1.7673 , p-value = 0.0850). Although not as strong as in the oil and gas sector, this relationship is still statistically relevant and consistent with broader empirical patterns. Ehiedu et al., (2023) reported that oil price movements tend to influence non-oil sectors like manufacturing and consumer goods by raising production costs and feeding into inflation. In the same vein, Obi et al. (2023) noted that firms in the consumer goods subsector often feel the indirect consequences of oil price shocks—mainly through higher energy and logistics expenses, which then affect margins and investor perceptions. This suggests that even industries outside the oil value chain remain exposed to oil-driven macroeconomic pressures in Nigeria.

Finally, the fourth hypothesis reveals that the exchange rate significantly moderates the impact of crude oil prices on sectoral stock returns. This pattern is consistent with Mgbomene et al. (2025), who found that oil price volatility and exchange rate movements jointly shape stock market performance in Nigeria, with currency fluctuations amplifying the effects of oil shocks. Nelson and Ebipatei (2025) similarly showed that both variables exert meaningful long- and short-run influences on stock prices, with the exchange rate acting as a key transmission mechanism linking global oil developments to domestic financial markets. These findings underscore the importance of exchange rate management as a stabilising force, helping to cushion the economy and the capital market from the disruptive effects of oil price volatility

Conclusion and Recommendations

Conclusion

First finding showed Nigeria's oil and gas sector been highly exposed to global oil price swings, with investor sentiment and profitability largely dictated by external market forces. The second finding indicates that the banking sector is relatively insulated from such fluctuations, relying more on domestic financial conditions than on movements in global crude prices. The third finding reveals that consumer goods companies are indirectly affected by oil market changes through production costs and consumer demand, making them

moderately vulnerable to oil price shocks. Lastly, the fourth finding emphasizes that exchange rate movements significantly mediate how oil price changes affect sectoral stock returns, meaning currency volatility can either cushion or intensify the impact of global oil price fluctuations on Nigeria's stock market.

Recommendations

In line with the study's objectives and findings, several policy-oriented recommendations emerge. First, investors and portfolio managers in Nigeria should closely monitor global oil price movements, adopting diversification and timing strategies to mitigate volatility-driven risks. Second, since banking sector performance is influenced more by domestic macroeconomic and regulatory factors than by oil price shifts, stakeholders should prioritize internal indicators such as credit growth and monetary policy conditions. Third, given that oil prices indirectly shape consumer goods performance through cost and demand channels, firms and investors in this sector should track oil price dynamics to anticipate profit and valuation changes. Finally, oil and exchange rate movements should be jointly analyzed, as currency fluctuations can magnify or offset oil price shocks across sectors; hence, integrating both factors into market evaluations will improve risk management and investment decisions in Nigeria's oil-dependent economy.

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