Empirical Analysis of Oil Price and Economic Growth in Nigeria

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Abstract

The connection concerning the oil industry and a country's progression is really important, especially for countries like Nigeria that rely heavily on oil for money. This study looks at how oil prices affect Nigeria's economy by checking things like how much the economy is growing, prices of goods, money altercation rates, and how much money is in circulation. The study also points out that depending too much on oil can be risky because changes in oil prices around the world can cause problems. Because of this, the research suggests that Nigeria should improve its economy by being careful with how it spends money and creating plans to rely less on oil. This way, the economy can be stronger and less affected by changes in oil prices. To understand this better, researchers used a special method to analyze data from 1981 to 2023. They looked for patterns to see how oil prices and the economy affect each other. They found that both short-term and long-term connections exist concerning oil prices and economic progression. When oil prices go up, it helps the economy grow, which means the government earns more money and can altercation money with other countries better. But if oil prices go down, it can cause problems like unstable money altercation rates and economic issues.

Keywords: Oil value; Conversation rate; Economic progression; Inflation rate; ARDL

1. Introduction

Until the discovery of oil, Nigeria's economy was largely dependent on agriculture, which created over 60% of jobs, 95% of foreign altercation earnings, and roughly GDP of 56% (World Bank, 2013). Groundnuts, cotton, cocoa, palm oil, timber, and rubber were among Nigeria's main agricultural products that accounted for the majority of its exports. Despite the fastest progression in the agricultural sector, there was very little oil exported. According to recent studies on Nigeria's economy, the country was predominantly agrarian, with agriculture acting as the main source of revenue. The Federal Bureau of Statistics report that the petroleum sector contributed just 0.007 percent of GDP at current prices concerning 1958 and 1969. In terms of GDP, however, agriculture continued to be the main driver during this time. Shell BP'S 1956 discovery of oil in the Oloibiri region of Bayelsa State has made it a vital source of energy and income for Nigeria. Despite being founded in the early 20th century, Nigeria's oil industry did not become increasingly prominent in the country's economic structure until the end of the 1967- 1970 civil war. According to (Nweze and Edame, 2016; Ogboru et al., 2017; Abukari, 2019; Baba, 2020; Darma et al., 2022; Abdelsalam, 2023) Nigeria's economy is highly reliant on oil, which has a substantial influence on the political and economic destiny of the nation.

Numerous nations, including Nigeria, have conducted in-depth research into the connection that survives amongst oil prices and cost-effective expansion. Readings have directed that fluctuations in oil fees substantially shake Nigeria's pecuniary expansion.

Ongoing research consistently shows that variations in oil fees can lead near a notable impression on Nigeria's GDP, suggesting that even minor increases or decreases in oil prices can result in substantial changes. As Nigeria predominantly relies on oil exports for its revenue, high oil prices incline to positively impression the economy, whereas low prices can severely hinder it. There is a positive relationship amid economic progression and oil prices; studies reveal that increasing oil prices in Nigeria often coincide with accelerated economic progression. However, rising oil prices tend to raise inflation rates, which may impede economic progress, despite the fact that they can boost economic expansion. Due to the substantial support of Nigeria's economy on oil exports, it remains defenceless to outward tremors, such as fluxes in universal oil prices (Alege et al., 2019; Talha et al., 2021; Mujtaba and Jena, 2021; Yildirim and Arifli, 2021; Darma et al., 2022; Wang et al., 2022).

Researchers Ogunjobi and Eteng (2024) amidst others scrutinised the affiliation concerning oil returns, inflation, and economic progression in Nigeria starting 1987 to 2022 utilizing the ARDL Co-Integration test (Autoregressive Distributed Lag). Rendering to the scholarship's discoveries, inflation devises a deleterious upshot while oil returns have a helpful effect on economic progression. Expending a Vector Error Correction model, Nuhu scrutinised the special effects of oil price fluctuations on Nigeria's economic progression from 1981 to 2015 in a separate study. This research revealed that while inflation and government expenditure contribute positively to economic progression, the precariousness of oil prices exerts a deleterious upshot. In conclusion, the empirical evidence emphasizes the significance of oil price explosiveness for Nigeria's pecuniary expansion and the necessity of the government putting strategies place to mitigate its adverse effects.

There is considerable discussion regarding what measures can be taken to ensure ongoing progression, irrespective of global market conditions, considering that Nigeria's previously swift progression has now plateaued around 7% and oil prices remain unpredictable. The instability can be attributed to international shocks caused by conflicts, strikes, financial crises, and a decrease in oil production. Many economists are worried about the economic outlook for Nigeria due to the nation’s dependency on crude and instability associated with oil prices. To promote economic evolution, the Nigerian economy must seek alternative, more stable sources of foreign altercation and government revenue as alternative fuels gain traction and oil-importing nations continue to discover new oil reserves (Oriakhi and Osaze, 2013). Oil-exporting developing nations largely depend on oil proceeds for obtaining foreign interchange earnings and typically rely on them to finance government budgets, often exceeding 90%. The petroleum sector encompasses all aspects of crude oil exploration, production, refining, marketing, and servicing.

The petroleum sector has substantially influenced the expansion of Nigeria's economy since oil was discovered, resulting in both advantageous and detrimental outcomes. Due to perceived shortcomings in the oil sector, several researchers have advocated for the advancement of alternative industries. Conversely, others have argued for the oil industry to be developed and supported because of its benefits. According to the European Scientific Journal, Vol. 9, September 2016, Nigeria was predictable to hold 37.2 billion containers of oil investments in 2011, with a daily production average of 21.3 million barrels (Nweze and Edame, 2016). Additionally, 82% of the federal government's income is derived from the hydrocarbon sector (World Bank, 2013). It points toward oil productiveness or essential role in providing Nigeria with most of its infrastructure, government expenditures, and initiatives for economic progression. Nigeria's oil exports to major economies, including the United States, have been on a steady decline due to increasing price volatility, new oil discoveries in

various parts of the world, and global economic unrest. At one point, 9–11 percent of U.S. crude oil imports originated from Nigeria, but by the first partial of 2012, this stake had fallen to 5%, as noted by Nweze and Edame (2016).

For example, nations often reduce their focus on income taxes as a means of generating government revenue due to their heavy dependence on oil income, which can distort incentives and lead the government to overlook alternative funding sources. Additionally, the economy's dependence on petroleum revenue upshots in minimal attention from the government towards infrastructure expansion, fostering private sector investment and automation in agriculture and manufacturing. The combination of low tax rates and high consumer spending, typically directed towards imported products, further exacerbates inflationary pressures related to expenditure. It has been observed that substantial earnings from local sales and ships of petroleum merchandises serve as catalysts for progression in other segments of the frugality through government disbursements. Given this context, it is urgent to scrutinise the link concerning oil returns and Nigeria's economic progression. Followings are the primary goals of this Paper: to determine the casual extent and long-term affiliation concerning Nigeria's economic progression and oil price.

2. Review of related literature

However, a number of researchers (Ugwu et al., 2016; Bayramov, 2018; Guan et al., 2021; Xiuzhen et al., 2022; Yu et al., 2022; Muhammed et al., 2023; Li and Umair, 2023; Almasria et al., 2024) have examined different variables besides ways on the relationship concerning oil and Baba (2020) engaged a Vector Auto regression (VAR) archetypal to analyse the impression of oil price fluctuations on Nigeria's economic progression. According to the discoveries, fluctuations in the price of oil have a substantial impression on economic expansion. Ogboru et al. (2017) utilized a co-integration method to explore the relationship concerning oil prices and Nigeria's economic progression. Oil prices and economic expansion are found to be correlated over the long term, according to their research. For many years, macroeconomists and researchers have emphasized the essential role of oil revenues in the progression and expansion of oil-producing countries, particularly Nigeria. The impression that oil revenues have on these nations' overall economic well-being is the subject of numerous publications. Conversely, there are contradictory upshots regarding the nature of the relationship concerning these two concepts; while some studies yield insubstantial parameters, others suggest reverse causality, highlighting the need for additional research on the subject. The relationship concerning Nigeria's economic performance and the crude oil sector was investigated by Nweze and Edame (2016). Their research concluded that both crude oil exports and consumption have contributed to the progression of the Nigerian economy, employing the Ordinary Least Squares regression method. The study gives an undertaking that if the government implements strategies to embolden private subdivision involvement in the unfinished oil sector.

Baba (2020) examined the impression of oil price volatility on the economic progression of Nigeria utilizing a Vector Error Correction model. Agreeing to the study's discoveries, fluctuations in oil fees have a deleterious impression on economic progression. Through the ARDL, Ogunjobi and Eteng (2024) scrutinised the link concerning Nigeria's oil revenue, inflation, and economic progression. Co-Integration test. Their research demonstrates that rise

deleteriously impressions economic progression, while oil revenue contributes positively. Alege et al. (2019) employed a Utilizing the Dynamic Stochastic General Equilibrium (DSGE) model, we looked at how fluctuations in oil prices affected Nigeria's economic expansion. The discoveries demonstrate that fluctuations in oil prices have a substantial impression on economic progression. Conversely, Efanga et al. (2020) investigated the impression of the oil sector on Nigeria's economic progression performance. They utilized the ordinary least squares (OLS) regression method to analyse GDP against oil revenue (OREV), with time acting as a regression. According to a two-tailed test conducted at a five percent significance level, the two explanatory variables did not show any substantial effect on the economy's progression of Nigerian performance during that period. Consequently, the researchers recommend that the government implement a suitable policy mix to encourage companies within the oil industry to enhance the sector's performance and contribution.

Their discoveries are in contrast to those of Nweze and Edame (2016), who identified a optimistic connexion concerning Nigeria's economic performance and the oil sector. Baba (2020) also utilized a multivariate VAR model to assess the role of oil in the progression of Nigeria's economy spanning from 1960 to 2015. He compares the oil sector against four others: construction, trade, manufacturing, and agriculture. The empirical evidence suggests that all five sub-sectors are co-integrated, and oil can stimulate the progression of non-oil sectors. However, oil exerted a deleterious influence on the industrialised sector. The Granger causation test point out bidirectional causality concerning oil and industrialised, oil and construction, manufacturing and construction, industrialised and trade, and agriculture and manufacture.

Nigerian economy has not greatly benefited from the petroleum sector, as noted by Baba's research. This is due to the ineffective utilization of funds that the government receives from the industry. The sector has faced numerous challenges, such as insufficient infrastructure, poor maintenance turnaround in the oil and gas diligences, widespread corruption, insurgent activities, recent Boko Haram attacks, oil theft, and other criminal offenses. According to Mathebula (2023), the frugality has been hindered by ongoing under expansion, paucity, and an amassed debt liability due to a variety of factors, including unreliable energy supply and power outages, the gradual deterioration in infrastructure with industries, inadequate neglect in oil and gas sector, a high prevalence of venality, violent insurgencies, and felonious undertakings. The evidence of poor economic and human expansion indicators is apparent, marked by high levels of persistent inflation, low per capita income, and unequal wealth distribution. The maladministration of lavish natural, human, and material possessions, combined with unquenchable ravenousness and a desire for disproportionate wealth, has plummeted the GDP while maintaining persistent poverty levels.

The Nigerian economy has been severely affected by political violence and corruption across all sectors. Baba (2020) has linked the socioeconomic downturn, civil unrest, and economic failure to the abundance of natural resources. They point out that oil has been identified as the natural resource most likely to incite civil conflict due to the substantial profits it generates. Consequently, Nigeria must be cautious in managing its petroleum resources to avoid a socioeconomic disaster. Nweze and Edame (2016) indicate that the economy of Nigerian has been roughcast several expansion challenges, including sluggish economic progression, high poverty rates, and the deterioration of social infrastructure and local economies. Abukari (2019) states that corruption, fiscal irresponsibility, lack of accountability regarding oil revenues, and the existence of substantial foreign reserves have become commonplace.

Bayramov (2018) provided evidence that challenged the belief that having an abundance of natural resources leads to civil unrest and ethnic conflicts rather than promoting economic expansion. In a similar vein, Ofori et al. (2022) be responsible for experiential data for the modest progression seen in Sub-Saharan Africa concerning 1965 and 1990. They argue that the progression experienced in Africa in recent decades can be attributed to initial conditions, economic policies, geography, and demographics (Ofori et al., 2022). Consequently, they identify several factors that influence progression in Africa and conduct regressions utilizing a mix of variables as determinants of progression. Additionally, Ofori et al. (2022) identified a link concerning slower progression and the presence of natural resource endowments.

According to their regression analysis, it was predicted that progression would decrease as natural resource exports increased GDP by 0.1, resulting in a reduction of 33 percentage points per year (Ofori et al., 2022). In conclusion, the literature review suggests a substantial rapport concerning Nigeria's economic progression and oil prices. The research indicates that the government of Nigeria should device policies to diminish the deleterious impressions of oil price vacillations on economic progression. Further research with different methodological approaches is necessary to explore how oil prices influence Nigeria's economic expansion.

3. Methodology

This section discussed the exploration methods through which the research objective was achieved. It comprises the theoretical structure, the model specification, the dimension of variables and data sources.

3.1 Theoretical Framework

The research is founded on various economic theories that clarify how shocks, particularly vacillations in goods prices alike oil, upset the macroeconomic performance of developing nations such as Nigeria. These economic theories, including Keynesian aggregate demand, Resource Dependence, and the Dutch Disease's theory, among others, establish a foundational structure for comprehending the rapport concerning oil prices and progression in resource-abundant countries like Nigeria. Consequently, the theories present arguments of researchers (Baba, 2020; Lin and Bai, 2021; Miamo and Achuo, 2021; Nitami and Hayati, 2021; Deka et al., 2024) regarding the complex effects, both constructive and deleterious, that depend continuously, the direction of oil price alterations and the structural characteristics of economies, offering unique opportunities for countries like Nigeria to enhance their economic progression.

3.2 Model Specification

Based on the theoretical principles outlined in the earlier theoretical framework, the model illustrating the connection amid oil values as a substantial macroeconomic variable and economic progression in Nigeria is constructed as follows;

$$EconomicGrowth = f(MacroeconomicFactors) \quad (1)$$

The explanatory variable consists of macroeconomic factors that will be analyzed, including oil prices, inflation rates, interchange rates, and money stream. However, considering the complex special effects of oil prices and economic progression based on theory (Resource Dependence), this study used crude oil prices to represent the oil sector while incorporating altercation rates, inflation rates, and money supply as control variables. As a result, the following is a definition of the connection among progression and oil values:

$$GDP = f(OILP, INF, EXR, MS) \tag{2}$$

In order to scrutinize the link concerning oil prices and economic progression, the research utilized the autoregressive distributed lag (ARDL) method proposed by Pesaran et al. (2001), which facilitates the concurrent estimation of both long-term and short-term affiliations of variables that are integrated at various orders. The model is defined as follows:

$$\begin{aligned}\Delta GDP_t = \alpha_0 + \sum_{i=1}^{p} \delta_i \Delta OILP_{t-i} + \sum_{i=0}^{q} \phi_i \Delta INF_{t-i} + \sum_{i=0}^{q} \theta_i \Delta EXR_{t-i} + \sum_{i=0}^{q} \varphi_i \Delta MS_{t-i} \\ + \alpha_1 OILP_{t-1} + \alpha_2 INF_{t-1} + \alpha_3 EXR_{t-1} + \alpha_4 MS_{t-1} + \varepsilon_t\end{aligned} \tag{3}$$

Wherever GDP, OILP, INF, EXR and MS denote the Gross Domestic Product (a measure of economic progression), oil value, inflation proportion, real conversation rate and money resource. Also, $\alpha_1 - \alpha_4$ represent long-run multipliers; $\delta_j, \phi_j, \theta_j, \varphi_j and \rho_j$ are short-run dynamic coefficients; and ε_t blunder period.

3.3 Measurement of Variables and Sources of Data

The information for the research was gathered from ancillary bases. Data layer the years from 1981 to 2023 were obtained from the World Bank Database. Table 1 contains information about the variables, including their descriptions, anticipated signs, and cradles of statistics.

Table 1: Data sources

Variables	At level	At first difference
Economic Progression (GDP Progression)	Market worth of all final possessions and amenities formed in republic, in annual percentage (%)	
Oil Price	Value of crude oil invention values minus total costs of production (%)	+
Inflation Rate	Progression rate of the GDP deflator (%)	-
Altercation Rate	Official altercation rate determined by national establishments (Naira per USD)	+

Source: Authors, 2025

4. Interpretation of Upshots

4.1 Descriptive Statistics

As provided is table 2 the imaginative exploration in the dataset utilized in the study. The mean together with median values for all variables fall within their respective maximum and

minimum values, indicating a high level of consistency in the data. The skewness reveals that only GDP progression is adversely skewed, while all other variables unveil positive skewness. The kurtosis values of oil price, money supply, and altercation rate are characterized as platykurtic, as they are below 3, suggesting that their dispersals are adulate than that of a average dissemination. Conversely, the kurtosis for GDP progression and inflation rate exceeds 3, indicating that these series are leptokurtic when compared to a normal (mesokurtic) distribution.

Table 2: Descriptive statistics

	GDP	OILP	INF	EXC	MS	
Mean	3.042141	11.57747	20.95366	116.5542	17.00090	Mean
Median	3.251681	12.09861	11.11892	118.5667	14.24738	Median
Maximum	15.32916	28.70544	219.0028	401.1520	27.37879	Maximum
Minimum	-13.12788	1.573876	0.686099	0.617708	9.063329	Minimum
Std. Dev.	5.255826	6.032315	33.94017	114.1190	6.128680	Std. Dev.
Skewness	-0.839215	0.455942	4.870144	0.804031	0.391566	Skewness
Kurtosis	4.845801	2.980544	28.45741	2.657588	1.442412	Kurtosis
Jarque-Bera	11.15153	1.490504	1331.124	4.843074	5.445547	Jarque-Bera
Probability	0.003789	0.474615	0.000000	0.088785	0.065692	Probability

Source: Authors, 2025

4.2 Correlation Matrix

The pairwise parallel test is conducted to evaluate the forte and bearing of the rapport among the variables. The strength of this relationship raises questions about the potential for multicollinearity. The upshots of the correlation experiment presented in table 3 indicate that the connexions concerning the variables vary from weak to moderate. It is noteworthy that although the inflation rate shows a deleterious and moderate relationship with GDP, the other explanatory variables (oil price, altercation rate, and money stream) exhibit a positive but weak connexion with GDP.

Table 3: Correlation matrix

Variables	GDP	OILP	INF	EXC	MS
GDP	1.00000				
OILP	0.35489	1.00000			
INF	-0.50259	0.02352	1.00000		
EXC	0.14863	-0.30275	-0.28541	1.00000	
MS	0.10624	-0.27887	-0.30566	0.83438	1.00000

Source: Authors, 2025

4.3 Stationarity Test

The unit root test plays an essential protagonist in economic analysis by assessing the stationarity of variables and guiding the selection of the suitable estimation method. In this analysis, the Augmented Dickey-Fuller (ADF) with Phillips-Perron (PP) unit root tests are utilized, with their discoveries presented in Table 4. Oil price, money supply, and altercation proportion variables are found to be standing at their initial differences, whereas the GDP and inflation rate variables are originating to be static at their intensities.

Table 4: Stationarity test

Variable	ADF		PP		**Result**
	Constant	Trend and Constant	Constant	Trend and Constant	
OILP	3.033665***	2.901206	7.886178***	8.496110***	I (1)
INF	10.61015***	11.17396***	39.83211***	35.51054***	I (0)
EXC	0.303026	2.451277	6.141014***	6.112198***	I (1)
MS	0.812053	2.118059	7.303670***	7.930087***	I (1)
GDP	4.387550***	4.194060**	11.09222***	11.87286***	I (0)
OILP	3.033665***	2.901206	7.886178***	8.496110***	I (1)

*Source: Authors, 2025. Summaries: ***, **, * indicates discharge of the invalid postulation of a unit core at the 1%, 5%, and 10% consequence level correspondingly. No allusion mark shows that the organization is non-stationary.*

4.4 Oil Value and Economic Progression: Long-run Relationship

Table 5 presents the discoveries regarding the long-standing connections amid the variables analyzed in the paper. The unacceptable assumption, which asserts that there is no long-standing affiliation concerning the variables, was rejected because the F-statistic (6.874876) was found to be greater than the precarious value (5.435). Hence, the alternative postulate is accepted, indicating that a long-standing affiliation subsists among GDP progression, oil prices, money quantity, inflation, with alteration proportions.

Table 5: Bound test upshots

Multiplied F-statistic = 6.874876 (lag construction, k=4)		
Bounds Level	Lower I (0)	Upper I (1)
Precarious Bounds Value (1%)	3.967	5.435
Precarious Bounds Value (5%)	2.893	4

Narayan (2005) precarious value for 5% connotation level is I (0) =2.893, I (1) = 4.000 and for 1% connotation level is I (0) = 3.967, I (1) = 5.455. Source: Reckoning by Authors 2025 based on upshot in EViews 11..

4.5 Interpretation of Estimated Parameters

The coefficients from the model's short- and long-standing upshots are shown in Table 6. The measurement for the rate of rise (-0.322589) is deleterious and substantial at the 1% threshold, while the coefficient for the oil price (0.605090) has a substantial positive effect over time. On the other hand, the coefficients for altercation rate with money supply exhibit progressive and deleterious values, respectively, but neither is statistically substantial. Additionally, Table 6 indicates that in the short run, the coefficient for oil price (0.24947) remains substantially positive at the 1% level, similar to the stretched path. On the other hand, the measurements for the money supply (-0.747498) and the inflation rate (-0.209812) are both substantially deleterious at the 1% level. On the other hand, the coefficient for the altercation rate is deleterious and does not have any significance. This suggests that oil price with inflation rate have a substantial progressive and deleterious impression on economic progression, respectively, in both the short and long runs. The study brings into being that while rise rate has deleterious effects over both time periods, oil price boosts economic expansion. In either case, however, the altercation rate has no substantial effect on economic expansion. Moreover, the coefficient for the error correction term (ECT (-1)) represents the rate of adjustment, demonstrating that the long-run relationship among the variables is stable and any short-run disequilibrium will be temporary and eventually rectified. A stable alteration process toward long-term stability is confirmed by the error correction term's deleterious and statistically

substantial value. The ECT value (-0.848732) suggests that around 84.9% of the volatility from the preceding year is rectified by the system, indicating that economic progression does not respond swiftly to changes in the influencing factors.

Table 6: ARDL upshots

Long run Coefficients			
Variable	Coef.	t-Stat.	Prob.
OILP	0.605090	3.147073	0.0039***
INF	-0.322589	-4.407126	0.0001***
EXC	0.006806	0.662128	0.5133
MS	-0.236841	-1.243073	0.2241
C	6.001469	1.587766	0.1236
Short run Coefficients			
Variable	Coef.	t-Stat.	Prob.
D(OILP)	0.249407	2.542312	0.0168***
D(INF)	-0.209812	-4.722607	0.0001***
D(EXC)	-0.027453	-1.565573	0.1287
D(MS)	-0.747498	-3.360961	0.0023***
ECT (-1)	-0.848732	-5.869035	0.0000***
R-squared	0.676806		
Adj. R-squared	0.608250		

*Note: *** and ** denote geometric connotation at 1% and 5%.*
Source: Authors, 2025.

However, to further explore whether the factors influence or cause one another, the Pairwise Granger causation test was executed. The results presented with Table 7 indicate the pivotal rapport amid the stated independent variables with GDP.

Table 7: Pairwise Granger causality test

Pairwise Granger Causality	Prob.	Obs.	F-statistics
OILP ensures no Granger basis GDP	0.7238	41	0.32618
GDP ensures no Granger basis OILP	0.8944		0.11200
INF ensures not Granger basis OILP	**0.0284**	41	3.93798
OILP ensures not Granger basis INF	**0.0159**		4.65746
EXC ensures not Granger basis OILP	0.3224	41	1.16831
OILP ensures not Granger basis EXC	0.2282		1.54002
MS ensures not Granger basis OILP	0.2748	41	1.33915
OILP ensures not Granger basis MS	0.4528		0.80990

Source: Computation by Authors, 2025

The upshots unfilled in Table 7 designate that the insignificant postulate is only refuted with the 1% level (0.0284 and 0.0159), suggesting that the inflation rate influences oil prices and the reverse is also true. Additionally, there is no further indication of causality concerning the other variables.

4.6 Diagnostic Tests

The probability values obtained from the residual diagnostic tests are deemed statistically insubstantial. As indicated in Table 8 below, the Jaque-Bera probability value (0.4632) exceeds the 5% connotation onset, leading to the dismissal of the insignificant postulate that the prototypical is not normally strewn; therefore, the study's model is normally strewn. The residual diagnostic assessment also indicates that there is no presence of serialized connexion

(0.4911). There is no indication of a heteroskedasticity issue within the model (0.5681), which supports the recognition of the insignificant postulate that the model exhibits equal variance (homoskedasticity).

Table 8: Diagnostic statistics

ARDL Diagnostic Tests Statistics		
Residual Tests:	T-Stat	P-Value
Histogram - Normality	1.539245	0.4632
Serial Correlation LM	0.730895	0.4911
Heteroskedasticity	0.888512	0.5681
Stability Test:		
Ramsey	2.718160	0.1134

Source: Authors, 2025

In addition to the stability diagnostic tests presented in Table 7 is the figure 1 and 2 CUSUM and CUSUMSQ tests for Stability.

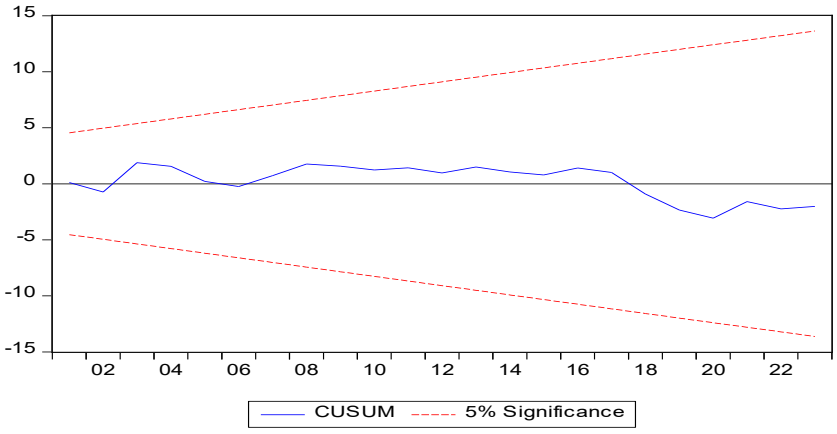

Figure 1: CUSUM experiment

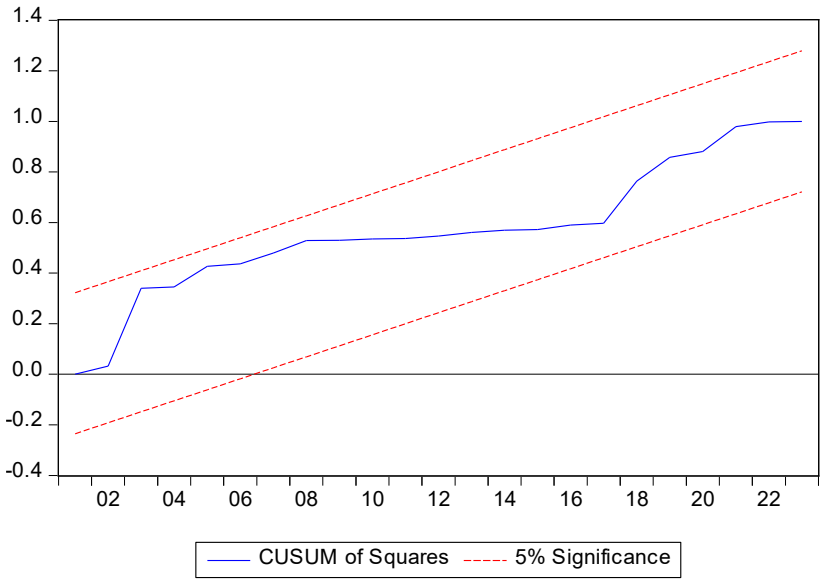

Figure 2: CUSUMSQ experiment

5. Conclusions

This paper examined the connection concerning oil prices and economic progression in Nigeria through empirical analysis. The results exposed that vacillations in oil prices have a substantial effect on Nigeria's economic performance due to the nation's heavy belief on oil returns. Although high oil prices have historically led to an escalation in economic progression, volatility in prices with external shocks have created macroeconomic instability, inflation, and fiscal imbalances. The discoveries designate that changes in oil prices are an essential factor influencing Nigeria's economic path, underscoring the risks tied to an economy dependent on a single commodity. Therefore, Nigeria must implement strategic policies to lessen the deleterious effects of oil price vacillations and increase profitable resilience in order to achieve sustainable economic progression.

6. Policy Recommendations

1. The government ought to enhance its initiatives for economic diversification by allocating more investments towards non-oil subdivisions such as agriculture, built-up, and technology. This approach will help decrease support on oil revenue and support the stabilization of the people's economic progression during times of oil value oscillations.

2. The Nigerian Central Bank should contrivance forward-thinking monetary policies aimed at reducing inflationary pressures arising from shocks in oil prices, including strategies to maintain altercation rates that can mitigate external vulnerabilities.

3. The country should boost its investment in essential infrastructure, education, and healthcare to improve productivity and create additional progression drivers beyond oil revenues.

4. The government should put greater emphasis on reforming the oil sector, focusing on transparency, efficiency, and enhancing local refining capacity, which would lessen reliance on imported petroleum products and minimalize the impression of transnational oil fee impulsiveness in Nigeria.

5. Additionally, fostering greater private sector involvement in major oil industries will facilitate business operations, strengthen the stability of regulations, and uphold property rights within the country.

By adopting these policy recommendations, the nation can lessen its dependence on unfinished oil, paving the way for macroeconomic stability and promoting sustainable progression.

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