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Original Research Article

Opec and Oil Price: An Impact Analysis of Opec's Role in the International Oil Pricing

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Abstract: This study examined the influence of the Organisation of Oil Exporting Countries (OPEC) on world oil price. Data on world oil price, OPEC oil supply, world oil demand and world inflation were sourced from various publications of OPEC, and analysed using the Augmented Dickey-Fuller (ADF) unit root test, Autoregressive Distributed Lag (ARDL) Bounds test, Breusch Godfrey Serial Correlation LM Test, and variance inflation factor (VIF) test for multicollinearity. The result of the ADF unit root test showed that OPEC oil supply was stationary at level, while world oil price, world oil demand and world inflation were stationary at first difference. The result of the ARDL bounds test confirmed that the variables are related in the long run given that the ARDL F-statistic value of 5.261561 is greater than the upper critical bound value of 3.67. Further findings revealed that a unit increase in oil supply by OPEC led to a 0.412751 unit increase in world oil price, while a unit increase in world oil demand resulted in a 2.813161 unit increase in world oil price. A unit increase in world inflation caused world oil price to increase by 0.345 unit. Based on the respective probability values which are less than the 0.05 level of significance, the study concludes that OPEC oil supply, world oil demand and world inflation, all impacted significantly on world oil price. This study recommends among others that, nations must continue to source for sustainable and dependable alternatives to crude oil.

Keywords: OPEC oil supply, world oil demand, world inflation, world oil price.

1.0 INTRODUCTION

Over the years, crude oil, also referred to as petroleum, has become an intrinsic part of modern society. It has remained a major source of energy in the world due to its high energy density and relative ease in its extraction, transportation, and refining (Yoshino & Alekhina, 2019). Its undoubted importance is owed to, among other reasons, early massive specific investments and the development of technologies using it as a primary fuel (Fernandois & Medel, 2020). For instance, it is used to power vehicles, as well as machines in factories where numerous products like plastics and pharmaceuticals are produced (Huang, 2023). In addition, the world's transportation sector depends almost totally on petroleum products such as gasoline and diesel fuel, while many countries rely primarily on petroleum fuels for heating, cooking, or generating electricity (The U.S. Energy Information Administration, 2023).

Despite its enormous benefits to the world, crude oil price has remained a major concern to stakeholders (producers and consumers). This is because changes in crude oil price impact the global economy (Amodu, Anikoh, & Ibitom, 2021). On one hand, high crude oil price is needed as incentive for investors to continue investment in the oil market and vice versa, while low crude oil price on the other

hand, is an incentive for consumers to increase their demand and vice versa.

The high or low episodes of crude oil price has been a consequence of several factors. Government policies, geopolitical conflicts, economic activities, alternative energy sources, and market speculation among others, have been identified as significant players in determining crude oil prices (Anjorin & Omorogiuwa, 2022). In addition, the market is exposed to substantial shocks that disrupt both supply and demand. Whether from war, natural disasters, labour strikes, port closures, political sanctions, or terrorism, the production and delivery of oil to the market is insecure and subject to frequent and unpredictable disruptions (Pierru, Smith & Zamrik, 2018). It was against this reality that the Organisation of Petroleum Exporting Countries (OPEC) was established in 1960.

The creation of OPEC among other reasons, was borne out of the debates between oil exporters and oil companies over oil prices as well as the companies unilateral measures to reduce crude oil prices (Ebghaei, 2007). Hence, OPEC was established as a permanent intergovernmental organisation focused on unifying petroleum laws and encouraging effective supply of petroleum in the global market. OPEC's founding members are Islamic Republic of Iran, Iraq, Kuwait, Saudi Arabia and Venezuela (OPEC, 2023). These five founding members were later joined by nine other Members: Qatar (1961); Indonesia (1962) -suspended its membership from January 2009; Libya (1962); United Arab Emirates (1967); Algeria (1969); Nigeria (1971); Ecuador (1973) – suspended its membership from December 1992-October 2007; Angola (2007) and Gabon (1975-1994). OPEC had its headquarters in Geneva, Switzerland, in the first five years of its existence. This was moved to Vienna, Austria, on September 1, 1965. (Agoawike, 2013).

Amodu, Anikoh, and Ibitom (2021) identified three (3) cardinal points as the major objectives of the OPEC, and they are: to coordinate and unify the petroleum policies of the member countries and to determine the best means for safeguarding their individual and collective interest; to seek ways and means of ensuring the stabilisation of price in the international oil markets, with a view to eliminating harmful and unnecessary fluctuations; and to provide an efficient, economic and regular supply of petroleum to consuming nations and a fair return on capital to those investing in the petroleum industry.

Based on its second objective, OPEC influence oil prices by setting production targets for its members. When oil prices appear to be declining, OPEC instructs its members to cut down on oil production, as well as oil supply. On the other hand, when prices begin to rise, OPEC encourages its members to increase oil production and supply, according to the various quotas assigned to each member country.

Despite setting production targets for its members, as a way of influencing oil prices, observers such as Colgan (2013) argued that OPEC lacks the ability to significantly influence crude oil prices in the oil market. Corroborating this, the International Energy Agency (2017) noted that the global push for domestic energy independence, combined with debilitating internal politics and the growing volatility of the oil market, among others, have contributed in diminishing OPEC's influence in world affairs. This line of thought posit that the success of OPEC depends on the level of compliance by its members. Nevertheless, it is observed that OPEC members compliance with OPEC quotas is mixed because production decisions are ultimately in the hands of the individual members. Furthermore, alternative energy sources in form of renewable energy such solar and nuclear reactors powered by uranium, lithium and others are crucial factors limiting the ability of OPEC to significantly influence the global oil price.

To this end, this study therefore, investigates the impact of OPEC on world oil price. Specifically, it investigates how OPEC oil supply, world oil demand and world inflation impacts on world oil price.

2.0 LITERATURE REVIEW

2.1 Factors Responsible for Fluctuations in Crude Oil Prices Over the Years

Crude oil prices have fluctuated considerably during global crises and economic developments. These fluctuations have occurred in different epochs for instance: between 1860 to 1939, oil prices increased due to World War 1. It however declined in the late 1930s due to global economic depression. Between 1948 and 1970, oil prices remained relatively stable, however, the jettisoning of the Monetary system of Bretton Woods International resulted in the 1971 oil crises which lasted till 1973 when oil price further increased due to the Yom Kippur war. Again, oil price increased in 1978 where OPEC increased the price of oil, because of shortage of supply in world market due to the war between Iran and Iraq (Amodu, Anikoh, & Ibitomi, 2021). The increase in crude oil price was sustained till 2003 as a result of the increase in oil demand from India, Brazil, China and other emerging economies that pursued their industrialisation agenda vigorously. Oil price continued to increase until late 2008 when it decreased due to global economic recession. From the year 2009 to 2013, oil price increased as a result of supply shortages and the Arab Spring Uprising

which began in 2010. However, in the years 2014 and 2015, oil price decreased as a result of excess supply due to shale oil production. By 2016, however, oil price increased given that countries agreed to freeze production. This decision nevertheless, affected developmental investment. Notwithstanding, the increase in oil price was short-lived as oil price declined drastically in 2020 due to the dreaded COVID-19 pandemic and the general decline in global gross domestic product. This decline however, did not last as oil price increased in 2022 as a result of post pandemic recovery and the Russia-Ukraine war (Anjorin & Omorogiuwa, 2022).

2.2 Empirical Literature

Focusing on OPEC+, Montant (2025) employed panel data and several econometric methods to empirically analyse the efficacy of the coordination strategies developed in the oil market between 2009 to 2024. The result of the study revealed that though some coordination strategies exist among OPEC members, the coordination strategies did not have significant impact on oil price between 2009-2016. However, from 2017 to 2022, both OPEC and OPEC+ had significant impact on oil price. Nevertheless, by February of 2022, OPEC and OPEC+ lost significant influence on the oil price due to Russia's invasion of Ukraine.

By analysing 85 announcements from official conferences and ministerial meetings related to major international crude oil within the period 2000–2021, Hasanpour, Sameni, and Mousavi (2024) assessed the influence of OPEC on oil prices. Findings from the study revealed that in the short-term period, decisions to cut and increase oil supply failed to balance oil demand and supply. Based on this outcome, the study reached the conclusion that certain categories of OPEC/OPEC+ announcements do not have significant influence on oil prices.

Pescator and Nazer (2022) adopted an event study approach in explaining the effects OPEC announcements have on oil price fluctuations. Findings from the study revealed that OPEC meetings contributed to higher price volatility, and that over time, the compliance by members, which was used to measure credibility had strongly fluctuated. It was also found that OPEC's decisions were influenced by Cyclical oil price fluctuations, implying that the goal of OPEC is to stabilise oil price rather than opposing vital shifts in demand and supply. Given these findings, it was concluded by the study that, low OPEC's market share reduced the probability of a production cut.

Using a novel identification design, Känzig (2021) investigated how oil price and the United States macroeconomy are affected by changes in oil supply potentials. Outcome of the study indicated that shocks in oil supply news had significant statistical and economic effects. Negative news resulted to an instant rise in oil prices, a gradual decline in oil production and an upsurge in inventories. It was also found that negative news contributed to decline in economic activities, increase in prices and inflation expectations, as well as devaluation of the U.S. dollar.

In another study, Quint and Venditti (2020) utilised a quantitative assessment technique to examine OPEC's influence on oil prices. Specifically, the study considered the extent to which cuts in oil production by OPEC+ influenced crude oil prices, and how prices would have evolved assuming there was no oil supply cut by OPEC+. Findings from the counterfactual analysis showed that OPEC+ impact on the market is limited, and that it was a result of substantial deviations the assigned quotas. It was also found that oil price would have declined by 6 percent without OPEC+ cuts.

In another study, Alvarez, Di Nino and Venditti (2020) investigated the strategic interactions and price dynamics in the global oil market. Adopting a simplified theoretical framework, the study modeled the strategic interactions between OPEC and non-OPEC producers and the implications for the global oil market. The study evaluated the implications of the model through a Structural Vector Auto Regression (VAR) that separates non-OPEC and OPEC production and allowed OPEC to respond to supply increases in non-OPEC countries. This was done by either increasing production (Market Share Targeting) or by reducing it (Price Targeting). Findings revealed that Price Targeting shocks absorbed half of the fluctuations in oil prices, which have been left unexplained by a simpler model (where strategic interactions are not taken into account). Price Targeting shocks, ignored by previous studies, explained about 10 percent of oil price fluctuations and are particularly relevant in the commodity price boom of the 2000s. Further findings confirmed that the fall in oil prices at the end of 2014 was triggered by an attempt of OPEC to re-gain market shares. It was also discovered that the OPEC's elasticity of supply is three times as high as that of non-OPEC producers.

Adopting Granger causality and a unique media-based measure of geopolitical tensions accounting for supply crunches and expansions for the 2001-12 period, Fernandois and Medel (2020) examined the influence of geopolitical tensions, news, and events in major oil producers on the Brent oil price, its forecasts, and the dispersion of those forecasts. Findings from the study revealed that geopolitical tensions affect the current level of oil

price, its forecasts, and the dispersion of those forecasts, and that OPEC news affects oil price forecast, while non-OPEC news affect the current and future oil price level, and that neither the forecast nor the dispersion of those forecasts were affected. Based on the findings, the study rejected the hypothesis that OPEC is a price setter in the world oil market.

Pierru, Smith, and Zamrik (2018) empirically analysed the impact of spare production capacity on the volatility of oil prices. From the findings, it was observed that oil price volatility declined by half as a result of OPEC's usage of spare capacity. Furthermore, the application of the principle of revealed preference in comparing the implicit loss function that rationalizes OPEC's investment in spare capacity, to other estimates of the cost of crude oil supply shortfalls indicted that OPEC's buffer capacity was in line with global market.

3.0 METHODOLOGY

3.1 Research Design

This study adopts an ex-post facto research design. This research design is a semi experimental research design which provides a basis for the estimation of the causal relationship between two or more variables.

3.2 Model Specification

The model is presented in both the mathematical and econometric forms. The mathematical form of the model is presented in equation 3.1, while econometric form of the model is specified in equation 3.2. we specify the mathematical form of the model as follows:

$$WOP = f(OOS, WOD, WI) \quad 3.1$$

While the econometric form of the model is specified as:

$$WOP = \beta_0 + \beta_1 OOS_t + \beta_2 WOD_t + \beta_3 WI_t + u_t \quad 3.2$$

Where:
WOP = World Oil Price
OOS = OPEC Oil Supply
WOD = World Oil Demand
WI = World Inflation Rate
β_0 = Intercept or Constant
β_1-β_3 = Coefficients of the estimates
U_t = Error or Disturbance term
t = Time trend

3.3 Scope and Sources of Data

Data spanning the period 1987 to 2023 was obtained for the dependent variable (world oil price) and the independent variables (OPEC oil supply, world oil demand and world inflation rate). The data set were obtained from several publications of the Organisation of Petroleum Exporting Countries (OPEC), and Statista.

3.4 Estimation Technique

Considering that the data obtained for the study are secondary in nature, unit root test for stationarity is conducted in order to ascertain the stationarity status of the variables. The Augmented Dickey-Fuller unit root test was used to ascertain the unit root properties of the variables.

3.5 Evaluation Technique

Both the statistical and the econometric criteria are employed in the evaluation of the model. The statistical evaluation involves the use of the probability values, the coefficients of the estimates, the coefficient of determination and others, while the econometric evaluation involves the use of criteria such as the Durbin-Watson Statistic, autocorrelation test, multicollinearity test and stability test.

4.0 PRESENTATION AND DISCUSSION OF RESULTS

4.1 Descriptive Statistics

Here we present the descriptive properties of the variables. Focus is on the maximum, minimum and mean values of the variables. The descriptive characteristics of the variables are presented in Table 4.1 below.

Table 4.1: Descriptive Statistics

	WOP	OOS	WOD	WI
Mean	47.79351	1.04E+10	3.02E+10	4.818919
Median	41.51000	1.05E+10	3.10E+10	4.100000
Maximum	99.67000	1.37E+10	3.73E+10	10.20000
Minimum	14.42000	7.96E+09	2.30E+10	1.400000
Std. Dev.	28.84772	1.32E+09	4.45E+09	2.437421
Skewness	0.499441	0.233039	-0.062197	0.565024
Kurtosis	1.821384	2.461824	1.664299	2.155918
Jarque-Bera	3.679809	0.781414	2.774337	3.067120
Probability	0.158833	0.676578	0.249782	0.215766
Sum	1768.360	3.86E+11	1.12E+12	178.3000
Sum Sq. Dev.	29958.87	6.28E+19	7.12E+20	213.8768
Observations	37	37	37	37

Source: Authors Computation

From Table 4.1, it is observed that between 1987 and 2022, world oil price had a maximum value of $99.67 per barrel of oil and minimum value of $14.42 per barrel of oil, while its average value during the period under review stood at $47.79 per barrel of oil. OPEC oil supply reached a maximum of 13.7 billion barrels per year, while its minimum oil supply was 7.96 billion barrels of oil per year. On the average however, OPEC supplied a total of 10.4 billion barrels of oil during the period under review. On the other hand, world oil demand is seen to have maximum and minimum values of 37.3 and 23 billion barrels of oil per year respectively, while average world oil demand during the period under review is 30.2 billion barrels of oil per year. For world inflation rate, the maximum value recorded is 10.2% while the minimum value recorded is 1.4%. On the average, the value for world inflation rate stood at 4.82%.

4.2. Stationarity Test

Due to the nature of time series data, it has become pertinent to test for the stationarity properties of the variables so as to avoid the problem of unit root which may yield spurious regression outcomes and lead to unreliable conclusions. In this study, the Augmented Dickey-Fuller unit root test was employed to ascertain the stationarity properties of the series and the result is presented in Table 4.2 below.

Table 4.2: Augmented Dickey-Fuller Unit Root Test

Series	Augmented Dickey-Fuller Test			
	Levels	First Diff.	5% C.V	Order of Integration
LOG(WOP)	-2.141401	-5.823812	-3.548490	I(1)
LOG(OOS)	-5.764587	-	-3.540328	I(0)
LOG(WOD)	-2.626117	-6.959425	-3.544284	I(1)
LOG(WI)	-2.378066	-4.520355	-3.595026	I(1)

Source: Authors Computation

The result of the Augmented Dickey-Fuller unit root test presented in Table 4.2 reveals that OPEC oil supply was stationary at levels, while world oil price, world oil demand and world inflation rate became stationary after taking their respective first difference. This implies that the series are integrated of different orders given that OPEC oil supply if of order zero [I(0)], while world oil price, world oil demand and world inflation rate are all integrated of order one [I(1)]. This mixed order provides the basis for the utilisation of the Auto Regressive Distributed Lag (ARDL) Bounds Test in testing for the existence of long run relationship among the variables. The result of the ARDL bounds test is presented in Table 4.3 below.

Table 4.3: Auto-Regressive Distributed Lag Bounds Test for Long-run Relationship

ARDL Long Run Form and Bounds Test				
Dependent Variable: DLOG(WOP)				
Selected Model: ARDL(3, 3, 3, 3)				
Case 2: Restricted Constant and No Trend				
F-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic	Value	Signif.	I(0)	I(1)
			Asymptotic: n=1000	
F-statistic	5.261561	10%	2.37	3.2
K	3	5%	2.79	3.67
		2.5%	3.15	4.08
		1%	3.65	4.66
Actual Sample Size	34		Finite Sample: n=35	
		10%	2.618	3.532
		5%	3.164	4.194
		1%	4.428	5.816
			Finite Sample: n=30	
		10%	2.676	3.586
		5%	3.272	4.306
		1%	4.614	5.966

Source: Authors Computation

The information in Table 4.3 suggests that the variables have joint convergence in the long-run. This is so given that the F-statistic value of 5.261561 is higher than the upper critical bound value of 3.67

at the 5 percent level of significance. We therefore reject the null hypothesis of "no long relationship among the variables," and accept the alternate hypothesis that a long-run relationship exist among the variables. We therefore proceed to estimate the error correction model and the result is as presented in Table 4.4 below.

Table 4.4: ARDL Error Correction Result

ARDL Error Correction Regression				
Dependent Variable: DLOG(WOP)				
Selected Model: ARDL(3, 3, 3, 3)				
Case 2: Restricted Constant and No Trend				
Sample: 1987 2023				
Included observations: 34				
ECM Regression				
Case 2: Restricted Constant and No Trend				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
DLOG(WOP(-1))	0.228253	0.257320	0.887042	0.3868
DLOG(WOP(-2))	-0.262462	0.216482	-1.212393	0.2410
DLOG(OOS)	0.412751	0.200650	2.057069	0.0431
DLOG(OOS(-1))	-0.059148	0.692579	-0.085403	0.9329
DLOG(OOS(-2))	-0.157529	0.558321	-0.282147	0.7810
DLOG(WOD)	2.813161	1.259854	2.232926	0.0199
DLOG(WOD(-1))	-1.235754	2.162696	-0.571395	0.5748
DLOG(WOD(-2))	-0.266759	2.148481	-0.124162	0.9026
DLOG(WI)	0.345422	0.122251	2.825513	0.0112
DLOG(WI(-1))	-0.030180	0.138044	-0.218622	0.8294
DLOG(WI(-2))	0.291630	0.129425	2.253265	0.0370
CointEq(-1)*	-0.311979	0.088570	-3.522400	0.0003
R-squared	0.640951	Mean dependent var		0.040427
Adjusted R-squared	0.461427	S.D. dependent var		0.263688
S.E. of regression	0.193514	Akaike info criterion		-0.176370
Sum squared resid	0.823848	Schwarz criterion		0.362346
Log likelihood	14.99829	Hannan-Quinn criter.		0.007347
Durbin-Watson stat	1.651796			

Source: Author's Computation

The result presented in Table 4.4 shows that OPEC oil supply impacted positively on world oil price as the coefficient of DLOG(OOS) has a positive value of 0.412751. The reason for this positive relationship is that OPEC regulates its supply of oil in the world market. From time to time, OPEC cuts its supply of oil in the world market causing more demand in the world oil market, which in turn leads to increase in world oil price. The positive value of 0.412751 indicates that as OPEC oil supply increases by 1%, world oil price increases by about 0.41% all other things being equal. The probability value of 0.0431 implies that OPEC oil supply impacted significantly on world oil price over the period under review. This assertion is made because the probability value of 0.0431 is less than the 5 percent level of significance.

Similarly, the information contained in Table 4.4 shows that world oil demand has a positive impact on world oil price as the coefficient of DLOG(WOD) has a positive value of 2.813161. This is because, in the period under study, it is observed that world oil demand has been on the increase, and OPEC oil supply has not matched the demand. Hence, excess demand for crude oil resulted to rise in the price of world oil. The positive value of 2.813161 implies that as world oil demand increase by 1%, world oil price will increase by about 2.8% assuming other factors are held constant. The probability value of 0.0199 suggests that world oil demand had a significant impact on world oil price over the period under review. This conclusion is reached given that the probability value of 0.0199 is less than the 5 percent level of significance.

World inflation is also observed to have impacted positively on world oil price. This is true given that the coefficient of DLOG(WI) has a positive value of 0.345422. inflation generally is considered as the persistent increase in the price of goods and services. This could be a function of several factors such as excess demand over supply or rising cost of production. Globally, there has been a drive for the use of improved/sophisticated technologies in the oil sector so as to prevent damages to the environment.

These improved technologies come at huge cost and thus impacts on the cost of production. Also, real wages have increased over time due to the activities of labour/trade unions. In order to accommodate for these rising costs, oil prices must also increase. Additionally, service charges by financial institutions operating with the oil industries have also increased over time and this may have impacted on the price of crude oil. The positive value of 0.345422 implies that a 1% percent rise in world inflation rate causes world oil price to increase by about 0.35% all other things being equal. The probability value of 0.0112 indicates that world inflation rate impacted significantly on world oil price over the period under review. This decision is made on the basis that the probability value of 0.0112 is less than the 5 percent level of significance.

The coefficient of determination (R-Squared) value of 0.640951 implies that the independent variables fitted in the model jointly explained about 64 percent of the behaviour of the dependent variable, while the remaining 36 percent of its behaviour is explained by other variables captured by the stochastic term. The error correction term [CointEq(-1)] which measures the speed of adjustment is correctly signed, and indicates that if there is any disturbance in the model, the model has the tendency to revert to equilibrium at an adjustment speed of about 31 percent. The Durbin-Watson statistic of 1.651796 indicates that the estimated model is free from serial or autocorrelation problem. This is further validated by the serial correlation test result in Table 4.5.

Table 4.5: Breusch Godfrey Serial Correlation LM Test

Breusch Godfrey Serial Correlation LM Test			
F-statistics	0.481502	Prob. F(2, 18)	0.6256
Obs*R-squared	1.675848	Prob. Chi-Square(2)	0.4326

Source: Author's Computation

The result in Table 4.5 shows that the model estimated does not have the problem of serial or auto-correlation as the observed R-squared (Obs*R-squared) value of 1.675848 and its corresponding probability Chi-Squared (Prob. Chi-Square (2)) of 0.4326 are not statistically significant at 0.05 level of significance. Thus, the null hypothesis of the residuals of the model being serially correlated is rejected and its alternate hypothesis of no serial correlation is accepted. This also makes the estimates of the model valid for making predictions and also for policy options.

The study also conducted a test to determine if the independent variables in the model are correlated among themselves. When independent variables are correlated among themselves, it results to multicollinearity problem. The Variance Inflation Factor was employed to test for the presence of multicollinearity. The decision rule for the test is that, any variable with VIF greater than 10 has a problem of multicollinearity with other variables. To avoid this problem, such a variable has to be dropped from the model. The result of the Variance Inflation Factor test is presented in Table 4.6 below.

Table 4.6: Multicollinearity Test using VIF

Variance Inflation Factors			
Sample: 1987 2023			
Included observations: 37			
	Coefficient	Uncentered	Centered
Variable	Variance	VIF	VIF
C	134.7825	53278.23	NA
LOG(OOS)	0.610085	128244.7	3.762768
LOG(WOD)	0.554755	127585.6	4.795377
LOG(WI)	0.016457	15.30217	1.775452

Source: Author's Computation

As evident in Table 4.6, all the variables have a VIF value less than 10 which signifies that the model is free of multicollinearity problems. We therefore, accept the null hypothesis of "no presence of multicollinearity", and reject the alternate hypothesis of "there is presence of multicollinearity". The result of the VIF test further confirms that the model is good enough for making predictions and also for policy options.

To further verify the stability of the ARDL result, ARDL CUSUM squared test was conducted and the result is presented in Figure 4.1. This also serves as structural break test for the estimated model.

Test for Structural Break

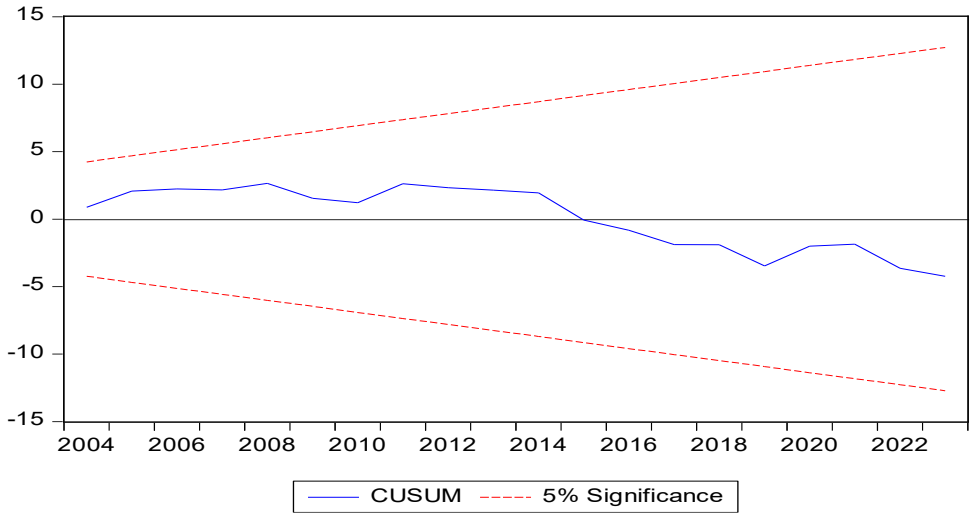

Figure 4.1: CUSUM Test

Figure 4.1 shows that there are no structural breaks in the estimated model or the series associated with it. This is because, as seen in the plot, the blue line lies perfectly between the upper- and lower-5 percent critical bounds denoted by the two red lines. This also confirms that there are no outliers in the estimated ARDL model, thereby further supporting its stability status and making it fit for policy recommendations and predictions.

5.0 CONCLUSION AND RECOMMENDATIONS

The study investigated the role OPEC plays in controlling world oil prices. To achieve this, the study specifically investigated how OPEC oil supply impacts on world oil price. In addition, the impact of world oil demand and world inflation rate on world oil price were also estimated. Due to the outcome (mixed order result) of the Augmented Dickey-Fuller unit root test, the Auto Regressive Distributed Lag (ARDL) bounds technique was used to estimate the impact of the independent variables on the dependent variables. Based on the findings, the study concluded that OPEC oil supply, world oil demand and world inflation rate all have positive and significant impacts on world oil price. It is on this basis that the following recommendations are put forward:

Recommendation for Policy Implementation

1. OPEC should continue to regulate its oil supply in the world oil market.
2. As nations and countries increase their demand for crude oil in order to power their manufacturing sectors and other productive sectors of their economy, world oil price increases. To avert this, or to reduce the pressure on oil demand, nations must continue to source for powerful and dependable alternatives such as solar, lithium reactors and others.
3. World inflation can be controlled via engendering more global economic participation. Restrictions preventing many countries from effectively participating in the world economy should be relaxed. Trade must be conducted on favourable terms. In addition, issues of wars have to be managed adequately by concerned international players, as this has the tendency of contributing to world inflation. For instance, the war in Ukraine evidently caused a hike in the price of wheat flour on the international market. When wars broke out in oil rich countries, it affects production and subsequently leads to a fall in global oil supply.

Recommendation for further Study

Under this section, two suggestions are put forward:

1. The study suggests that scholars who are interested in the research area may estimate the effect of world oil gap (the difference between OPEC oil supply and world oil demand) on world oil price.
2. Other studies may wish to examine the joint impact of OPEC and OPEC+ on world oil price.

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