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Article

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International Journal of Energy Economics and Policy

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International Journal of Energy Economics and Policy (IJEEP)

Reference: Warsame, Abdimalik Ali (2022). Does oil price affect the economic growth in Somalia asymmetrically?. In: International Journal of Energy Economics and Policy 12 (5), S. 47 - 54. https://econjournals.com/index.php/ijeep/article/download/13210/6898/31130. doi:10.32479/ijeep.13210.

International Journal of Energy Economics and Policy

ISSN: 2146-4553

available at http: www.econjournals.com

International Journal of Energy Economics and Policy, 2022, 12(5), 47-54.

Does Oil Price Affect the Economic Growth in Somalia Asymmetrically?

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Received: 29 April 2022 **Accepted:** 12 August 2022 **DOI:** https://doi.org/10.32479/ijeep.13210

ABSTRACT

Crude oil is one of the most important inputs for production activities, and an increase in its price has a crucial effect on economic growth both in developing and developed countries and Somalia is not an exception. To this end, this undertaking models the asymmetric impact of crude oil price on economic growth in Somalia using the nonlinear Autoregressive Distributed Lag model with annual time series data stretching from 1990 to 2018. The empirical results of the study revealed that oil price asymmetrically affects economic growth in Somalia both in the short and long runs. A positive oil price shock is inconsequential in the long run but impedes economic growth in the short run, while a negative oil price shock has a constructive role in stimulating economic growth in the long run but not in the short run. Nevertheless, the study suggests the implementation of economic diversification towards utilizing other types of energy other than oil and designing policies aimed at increasing energy investments.

Keywords: Economic Growth, NARDL, Oil Price, Somalia
JEL Classifications: Q43, O55, N17, C32

1. INTRODUCTION

Crude oil remains a key input for production activity, where oil price changes can play a vital role for both oil-importing and exporting countries (Hamilton, 1983; Hamilton, 1996; Narayan et al., 2014; Kırca et al., 2020). In oil-importing countries, it is perceived that a positive oil price shock has detrimental impacts as it increases the costs of domestic goods and is also related to a transfer of wealth from oil-importing countries to oil-exporting countries via trade balance. Moreover, a positive oil price shock raises financial and economic uncertainties which in turn hampers investments and hinders the consumption of housing, appliances, cars, etc. (Mark, 1996; Hamilton, 2011; Su et al., 2021). On the other extreme, in oil-exporting economies, a positive oil price shock has a favorable impact on the economy of these countries; as it increases net exports and government revenues which in turn improve the economy via expansionary fiscal expenditure (Nasir et al., 2019).

Somalia is a protracted conflict country with a low income per capita. Energy consumption in the country is one of the lowest in Sub-Saharan Africa. Charcoal, firewood, and imported petroleum represent the largest portion of the total energy consumption in the country (RCREEE, 2015). Charcoal and firewood are the predominant energy source in the country that constitutes 80-90% of the final energy consumption (African Development Bank, 2015; Warsame, 2022; Warsame and Sarkodie, 2022). Energy prices adversely affect the livelihoods and production in the least developed countries, including Somalia. For instance, Somalia encountered one of its severe famines in 2011. Several factors are attributed for instigating these crises mainly droughts, political instability, and global and domestic food price increase which was chiefly aided by global energy price hikes (Maxwell and Fitzpatrick, 2012; Warsame et al., 2021; Warsame et al., 2022). Somalia relies on imported food – food aid and commercial food imports. Any increase in international oil prices impedes food availability.

The oil price increase does not only exacerbate food crises but also reduces energy imports which in turn hampers domestic production due to the increase in the cost of production – oil price. More recently, global energy price hikes in 2022 has resulted in electricity costs increasing by $0.10/KWh which is almost one-third of the total price increase (Puntland Mirror, 2022). Thus, this will undermine the livelihoods and production of the already suffering Somali population where only 16% of the population has access to electricity (USAID, 2022).

The oil price-economic growth nexus has been widely discussed in the existing literature, but these studies have produced inconclusive results. The existing literature on the oil price-growth nexus is divided into two broad categories. On one hand, some studies have concluded that oil price increase has a constructive role in increasing economic growth, especially in oil-exporting countries. They argue that a positive oil price shock results in an oil revenue increase which provides the financial resources needed for the activities of economic growth and development in oil-exporting countries. Some of these studies include; Babuga and Naseem, (2022) examined the impact of oil price change on economic growth in African oil-exporting countries using Pooled Mean Group (PMG) and Mean Group (MG). They detected that a rise in oil prices enhances economic growth in the sample countries. They also found out that oil price affects economic growth at a specific threshold; after the threshold, the effect turns negative. Recently, Kriskkumar et al. (2022) examined the impact of oil price on economic growth in Malaysia using both linear and nonlinear ARDL Cointegration methods. The empirical results did not detect any relationship between oil price and economic growth in linear ARDL results. But after considering the asymmetric effect of oil price on growth, a long-run Cointegration among the variables was detected. A positive shock in oil price has a sustainable positive impact on economic growth, whereas a negative oil price shock hampers it. Malaysia is a net oil-exporting country. An oil price increase exerts an increase in oil revenue which in turn improves the economy. In the same vein, Charfeddine and Barkat, (2020) ascertained the asymmetric impact of oil price, and oil and gas revenues on economic growth in Qatar. They employed impulse response function and NARDL with quarterly data stretching from 2000Q1 to 2018Q3. The empirical results revealed the presence of an asymmetric relationship between oil price and economic growth. A positive oil price shock has a larger effect on growth than a negative shock on the oil price. The first one improves the growth while the latter undermines it. Moreover, Badeeb and Lean, (2017a) assessed the nexus between financial development, oil dependence, and economic growth in Yemen using annual time series data spanning from 1982 to 2012. The study also evaluated the mediating effect of financial development on oil and growth nexus. It is observed that oil revenue stimulates economic growth in Yemen, while financial development mitigates the dependence of economic growth on oil revenue.

Numerous examinations have investigated the oil price-growth nexus in panel countries. For instance, Moshiri, (2015) analyzed the asymmetric impact of oil price on economic growth in a panel of developed and developing oil-exporting countries – Iran, Algeria, Nigeria, Kuwait, Saudi Arabia, UK, Canada, Norway, and Venezuela – using Vector autoregressive (VAR) models. The sampled countries are classified into developed and developing countries. The results indicated that oil price asymmetrically impacts economic growth in these countries in general. A negative oil price shock undermines economic growth while a positive oil price shock does not translate into sustained economic growth in developing countries. Nevertheless, neither positive nor negative oil price shocks affect economic growth in developed countries. In a follow-up study conducted by Nusair, (2016) in Gulf Co-operation Council (GCCC) nations assessed the nonlinear effect of oil price on economic growth using the NARDL Cointegration method. The empirical findings indicated the existence of a nonlinear relationship between oil price and economic growth. A positive oil price shock poses a larger effect than a negative oil price shock. A positive oil price shock significantly enhances economic growth in all GCCC countries. But the negative oil price shock is only significant in Kuwait and Qatar, therefore, hampers the economic growth of these two countries. However, the existence of the nonlinear relationship between oil price and economic growth is further supported by several previous studies such as Jawadi and Ftiti, (2019) in Saudi Arabia; Awartani et al. (2020) in 6 Middle East and North Africa (MENA) countries.

Furthermore, Rotimi and Ngalawa, (2017) analyzed the role of oil price shocks in economic growth in 5 African oil-exporting countries namely; Egypt, Algeria, Nigeria, Libya, and Gabon. The empirical results of the study discovered that oil price increase significantly boosts economic growth in the sample countries. Recently, Abubakar and Akadiri, (2022) examined the effects of oil rents and revenues on economic growth in Nigeria. They employed Novel dynamic ARDL simulation and Kernel Regularized Least Square (KRLS) with annual time series data spanning from 1973 to 2020. They found that oil rents are inconsequential and have decreasing marginal effects on economic growth in Nigeria. But oil revenue has a significant and sustainable effect on economic growth in Nigeria.

Nevertheless, it is not always true that a positive oil price shock accelerates the economic growth in oil-exporting countries. There are some certain African countries with exportable natural resource endowments but with low per capita income; and some other certain countries in Asia and Europe with no exportable natural resources but still achieved a high standard of living and high per capita income. This paradox is called the natural resource curse. It is a term postulated by Auty, (1993). This paradox is verified by several studies (Eregha and Mesagan, 2016; Badeeb ana Lean, 2017; Tamba, 2017). A plausible explanation for the detrimental economic growth resulting from oil price increases can be domestic currency appreciation, poor policy-making, and rent-seeking behavior (Moshiri and Banihashem, 2012).

On the other hand, some others have stressed that a positive oil price shock has a detrimental impact on economic growth especially in oil-importing countries. Some of the main channels oil price shocks impede economic growth include; the creation of economic uncertainty, increasing input costs, and deteriorating

trade balance (Su et al., 2021). Ample of studies have backed these arguments. Katircioglu et al. (2015) examined the impact of oil price on the gross domestic product (GDP), unemployment, and inflation in a sample of 26 OECD countries. They used panel Cointegration methods with annual time series data stretching from 1980 to 2011. The empirical findings of the study uncovered that oil price induces a negative effect on GDP, unemployment, and inflation in OECD economies. In a similar study conducted in 17 OECD countries, van Eyden et al. (2019) ascertained the effect of oil price movements on economic growth. They used annual time series data stretching from 1870 to 2013. They revealed that oil price volatility significantly undermines the economic growth in the sample countries. This result corroborates with the previous studies of Jiao et al. (2012) in China. Utilizing the recent advanced econometric methodology of NARDL, Akinsola and Odhiambo, (2020) assessed the asymmetric impact of oil price on economic growth in seven low-income oil-importing sub-Saharan African (SSA) countries, namely Uganda, Gambia, Senegal, Mali, Tanzania, Mozambique, and Ethiopia. They concluded that oil price asymmetrically affects economic growth. A positive oil price shock hampers economic growth while a negative oil price shock accelerates it. This result is in line with Chiweza and Aye, (2018) in South Africa; but contradicts the findings of Awunyo-Vitor et al. (2018) in Ghana who revealed that oil price does not have any effect on growth.

According to the above literature, it could be noted that the oil price-growth nexus is inconclusive. Various econometric methods applied, effective domestic policies and data discrepancy are attributed to the lack of a uniform conclusion. Moreover, assuming a linear relationship between oil price and growth by the previous examinations could also be justified to the inconclusive results. Against this background, this investigation aims to analyze the impact of oil price on economic growth in Somalia considering the nonlinear relationship between oil price and economic growth. More precisely, the study examines the short and long runs asymmetric effects of oil price on growth using the nonlinear Autoregressive Distributed Lag (NARDL) method developed by Shin et al. (2014). Short and long-run asymmetries in the model are incorporated via negative and positive partial sum decomposition of the independent variable.

The rest of the study is structured as follows; section two present data and methods utilized, and results and discussions are reported in section 3. Finally, the conclusion and policy implications are reported in section four.

2. MATERIALS AND METHODS

This study assesses the role of oil prices in economic growth in Somalia from 1990 to 2018. Somalia is favored because it depends on fossil fuel which represents a large share of total energy consumption in the country. Annual data extracted from various sources such as; the World Bank, the Organization of Islamic countries (OIC) database of SESRIC, and the Federal Reserve Bank are used for the analysis of the study. Brent crude oil price is used as a measurement of oil prices due to that its benchmark for global international markets. Moreover, Brent crude oil price is utilized as a proxy of oil price because of lack of domestic oil price availability. It is considered a representation of a uniform substitute. The dependent variable of the study is economic growth which is measured by the real gross domestic product (RGDP). The independent variables are oil price, gross fixed capital formation, population growth, and agriculture production. Brent crude oil price is taken as a proxy for the oil price. Gross fixed capital formation is measured in millions of US dollars. Population growth is represented by the growth rate of the population. Finally, agriculture production is measured in agriculture value-added in millions US dollars. RGDP, gross fixed capital formation, and agriculture production are retrieved from SESRIC. Population growth is sourced from World Bank while Bent crude oil price is extracted from Federal Reserve Bank. Trends of the sampled variables of the study are presented in Figure 1.

This undertaking employed the recent economic methodology of NARDL postulated by Shin et al. (2014) which is an extension of Pesaran et al. (2001) ARDL bound test. The NARDL Cointegration method outperforms the linear ARDL in that the NARDL allows the decomposition of the explanatory variable into the positive and negative partial sum of the process. Notably, it is argued that oil price affects economic growth asymmetrically because economic agents provide various responses to the changes in oil price. Hence, ignoring the nonlinear effects of oil price on economic growth could lead to incorrect inferences which will ultimately result in biased policy implications. Furthermore, the NARDL Cointegration method is preferred over other Cointegration methods for several reasons. The NARDL method is good at estimating a small sample size that produces reliable and robust results compared to other Cointegration methods such as Johansen and Juselius Cointegration, and Engle and Granger Cointegration methods. Second, this method does not need to pretest the integration order of the variables unless they are not integrated at the second difference I (2). But if the variables are stationary at the level I (0), the first difference I (1), or the combination of both, the NARDL method could estimate data with these characteristics, unlike other Cointegration methods.

According to Shin et al. (2014), the decomposition of oil price into positive and negative shocks on economic growth can be expressed as:

$$OP_t = OP_0 + OP_t^+ + OP_t^- \quad (1)$$

Where $OP_t = OPt^+$ and OP_t^- are the decomposition of positive and negative changes in OP_t:

$$OP_t^+ = \sum_{j=1}^{t} \Delta OP_j^+ = \sum_{j=1}^{t} \max\left(\Delta OP_j, 0\right) \quad (2)$$

$$OP_t^- = \sum_{j=1}^{t} \Delta OP_j^- = \sum_{j=1}^{t} \min\left(\Delta OP_j, 0\right) \quad (3)$$

The final adopted model of the study of the NARDL model is formulated as follows – (Kriskkumar et al., 2022; Babuga and Naseem, 2022):

$$\Delta lnRGDP_t = \beta_0 + \Delta lnRGDP_{t-1} + \beta_1^+ lnOP_{t-1}^+ + \beta_1^- lnOP_{t-1}^- + \beta_3 lnPG_{t-1} + \beta_4 lnGFCF_{t-1} + \beta_4 lnAP_{t-1} + \sum_{j=1}^{h-1} \alpha_j \Delta lnRGDP_{t-j} + \sum_{j=0}^{m-1} \alpha_{1j}^+ \Delta lnOP_{t-j}^+ + \sum_{j=0}^{m-1} \alpha_{1j}^- \Delta lnOP_{t-j}^- + \sum_{i=0}^{m} \Delta\alpha_3 lnPG_{t-k} + \sum_{i=0}^{m} \Delta\alpha_4 lnGFCF_{t-k} + \sum_{i=0}^{m} \Delta\alpha_4 lnAP_{t-k} + \varepsilon_t \quad (4)$$

Where lnRGDP is the natural logarithm of real gross domestic product, $lnOP_{t-1}^+$ is the positive shock of oil price, $lnOP_{t-1}^-$ is the negative shock of oil price, lnPG represents population growth which is measured for labor growth, lnGFCF signifies gross fixed capital formation, h is the lag length of the dependent variable and m indicates the optimal lag length of the independent variables. α and β show the short-run and long-run coefficients of the variables respectively.

3. EMPIRICAL RESULT AND DISCUSSION

Table 1 provides comprehensive summary statistics of the scrutinized variables of the study. The mean, median, maximum, minimum, and standard deviations of the data set are reported in Table 1. There is a significant difference in the maximum and minimum values of oil prices. The maximum value of oil price is 4.7 whereas its minimum value is 2.5. In the same vein, the oil price has the highest value of standard deviation (0.69) compared to other variables – implying that its value is volatile and is scattered among them. Furthermore, economic growth and agriculture production have the highest mean values of 20.86 and 20.28 respectively. In contrast, correlations of the scrutinized variables are presented in Table 2. The correlation value is between 0 and 1. The value of "0" shows the absence of correlation whereas the value of "1" indicates perfect correlation. The result of the correlation revealed that economic growth has a positive

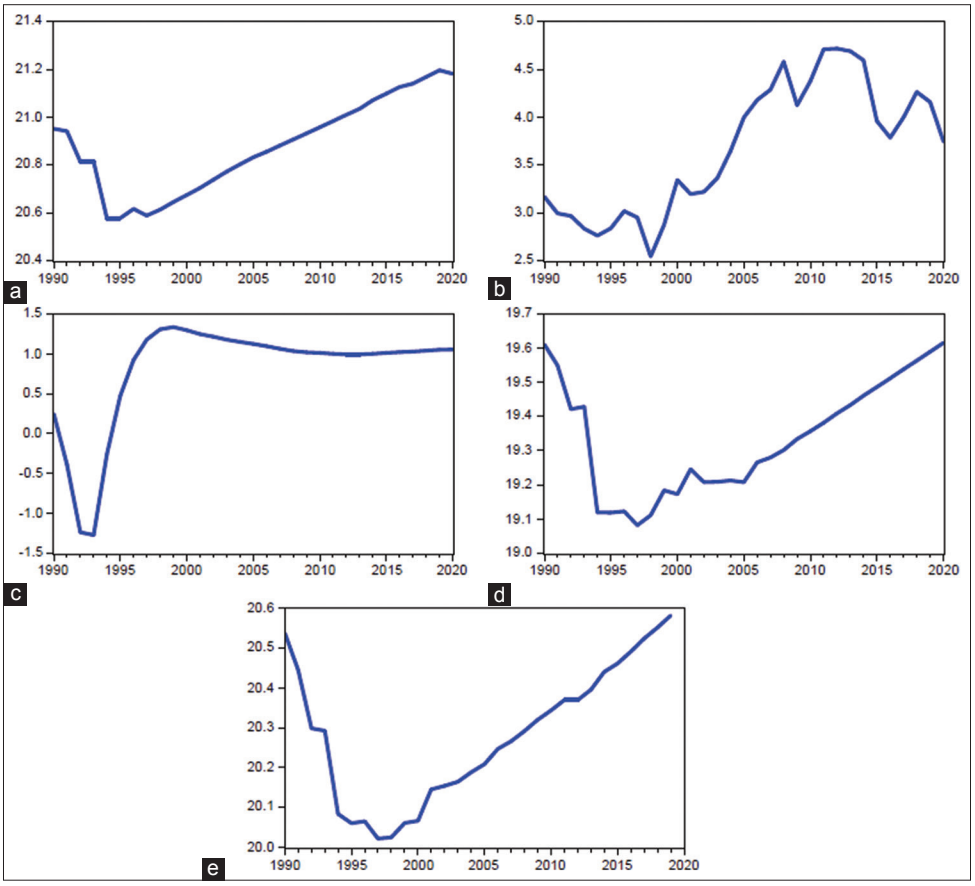
Table 1: Descriptive statistics

	lnRGDP	lnOP	LnPG	lnGFCF	lnAP
Mean	20.86745	3.671016	0.796284	19.33052	20.28235
Median	20.86831	3.715111	1.026035	19.31792	20.29201
Maximum	21.19647	4.718138	1.335001	19.61080	20.58142
Minimum	20.57770	2.543110	−1.272966	19.08161	20.02196
Std. Dev.	0.190099	0.696280	0.690338	0.162535	0.173712

Table 2: Correlation matrix

	lnRGDP	lnOP	LnPG	lnGFCF	lnAP
lnRGDP	1				
lnOP	0.7371	1			
lnPG	0.0798	0.3985	1		
lnGFCF	0.8967	0.4417	−0.2564	1	
lnAP	0.9594	0.5858	−0.1224	0.9734	1

Figure 1: Trends of the sampled variables. (a) Real gross domestic product (b) Oil price (c) Population growth (d) Capital (e) Agriculture production



correlation with the oil price, population growth, gross fixed capital formation, and agriculture production. Similarly, the oil price is positively related to population growth, gross fixed capital formation, and agriculture production. On the contrary, population growth is negatively associated with gross fixed capital formation, and agriculture production. Finally, there is a positive relationship between gross fixed capital formation and agriculture production.

To determine the variables' order of integration, we employ Augmented Dickey-fuller (ADF) and Philips Perron (PP) tests. Even though the NARDL could regress variables that are integrated at the level I (0), the first difference I (1), or the combination of both. We should verify that none of the variables are integrated at the second-order I (2). The unit root result reported in Table 3 confirmed that some variables such as economic growth, gross fixed capital formation, and agriculture production are integrated at the level I (0). After the variables are differenced, all of them are stationary at the first difference I (1). Thus, this confirms that our scrutinized are integrated in a mixed order of integration. Hence, the NARDL is suitable for the characteristics of our data.

The Cointegration test is performed to determine if there is a Cointegration between the variables of interest or not. The bound test outcome reported in Table 4 revealed that there is a long-run asymmetric Cointegration between economic growth and oil price along with control variables in Somalia. Because the F-bound test (5.59) falls above the upper bound critical values (4.73) at a 5% significance level – which rejects the null hypothesis of the absence of long-run asymmetric Cointegration among the variables of interest and fails to refute the alternative hypothesis of the presence of long-run asymmetric Cointegration among the variables.

After confirming that none of the series are integrated at second order I (2) and the long-run asymmetric Cointegration among the variables, we subsequently estimate the long and short-run coefficients of the independent variables. Stepwise least square was used to determine the optimal lag length of the variables. This method omits the highest insignificant p-values of the differenced explanatory variables. Both long and short-run results of the study are reported in Table 5. In the long run results, it revealed that oil price shocks have asymmetric effects on economic growth in Somalia in the long run. A positive oil price shock does not exert any significant effect on economic growth in the long run because it's statistically insignificant. But a negative shock in oil price has a significant constructive role in increasing economic growth in the long run in Somalia. A 1% increase in negative oil price shock contributes to the economic growth increase by about 0.028% in the long run. In addition, the control variables incorporated in the model are insignificant except for population growth. Population growth significantly contributes to the economic growth in the long run in Somalia. A 1% increase in population growth will increase economic growth by about 0.064% in the long run. Gross fixed capital formation and agriculture production are statistically insignificant in the long run.

In contrast, the short-run dynamic effect and error correction (ECT) are also presented in Table 5. Previous year economic growth undermines current economic growth in the short run. Oil price result asymmetrically affects economic growth in the short run which is consistent with the long-run results. A positive oil price shock is significant and has a negative coefficient compared to the negative oil price shock which is insignificant. A positive oil price shock hampers economic growth in the short run in Somalia. A 1% increase in positive oil price shock inhibits economic growth by about 0.058% in the short run. Moreover, gross fixed capital formation has a significant positive impact on economic growth in the short run. A 1% increase in gross fixed capital formation leads economic growth to increase by 0.434% in the short run. On the contrary, population growth is not different from zero which implies that it's statistically insignificant in the short run. But agriculture production significantly enhances economic growth in the short run in Somalia. A 1% increase in agriculture production results in economic growth increasing by about 0.425% in the short run. More importantly, the short-run dynamic effect is reported along with ECT. The ECT should be significant and has a negative coefficient to make the model a convergence – speed of adjustment. The ECT is negative and significant, hence, showing any deviations that occur in economic growth are adjusted by the scrutinized variables. Any shock deviation in economic growth is adjusted by 3.8% by the scrutinized variables annually.

To establish the validity and consistency of the empirical results, we perform several diagnostic tests such as serial correlation, heteroskedasticity, normality, reset test, and model stability. The diagnostic outcome reported in Table 6 detected no diagnostic problem. The selected model of the study is free from serial correlation which implies that the variances of the error term are

Table 3: Unit root tests

Variable	ADF	PP
lnRGDP	−3.4837*	−4.3909***
ΔlnRGDP	−5.2434	−5.3854***
lnOP	−1.2896	−1.4933
ΔlnOP	−4.3745***	−4.1475**
lnGFCF	−4.4199***	−6.1108***
ΔlnGFCF	−6.5802***	−6.0431***
lnPG	−0.8319	−1.9151
ΔlnPG	−8.4186***	−3.0567
lnAP	−4.5538**	−5.7743***
ΔlnAP	−4.7135***	−5.0337***

***, ** and * Represent significance level at 1%, 5% and 10% respectively. The t-statistics reported is intercept and trend

Table 4: F-Bounds cointegration tests

Model	F-statistic	Significance	Bounds test critical values K (4)	
			I (0)	I (1)
lnRGDP=*f* (lnOP$^+$, lnOP$^-$, lnPG, lnGFCF, lnAP)	5.5969	1%	4.824	6.56
		5%	3.326	4.73
		10%	2.752	3.922

AQ2 The critical values are based on Narayan (2005) . K=number of explanatory variables.

Table 5: Coefficient elasticities of the model

Variable	Coefficient
Constant	−2.6244 (−1.7802)
$lnOP^{+}$	0.0046 (0.7285)
$lnOP^{-}$	0.0286** (2.6325)
lnGFCF	0.1109 (1.7076)
lnPG	0.0643*** (3.5941)
lnAP	−0.0228 (−0.1635)
Δ (lnRGDPC (−1))	−0.3605* (−2.0018)
Δ ($lnOP^{+}$ (−1))	−0.0586** (−2.1352)
Δ ($lnOP^{-}$)	0.0166 (0.8288)
Δ ($lnOP^{-}$ (−1))	0.0389 (1.6736)
Δ (lnGFCF)	0.4342** (2.2506)
Δ (lnPG)	−0.0243 (−0.913)
Δ (lnAP)	0.3563 (1.2770)
Δ (lnAP (−1))	0.4259** (2.1691)
ECT (−1)	−0.0389** (−2.1119)

*** and ** indicates significance at 1% and 5% levels, respectively. T-statistic is reported in parenthesis. Δ is the short-run parameter

Table 6: Diagnostic tests

	0.1252 (0.7190)
	0.2655 (0.9558)
Normality Test	3.5542 (0.1691)
Reset Test	4.0912 (0.0503)
Adjusted R^2	0.99

not correlated. The variances of error terms are constant, hence, confirming that the model is homokedasticity. The mean and variance of the data are identically and independently distributed, hence, verifying the assumption of normality. The model of the study is correctly specified as shown by the reset test. Moreover, goodness fit of the model is good as indicated by the adjusted R-squared. Interpretively, 99% of the variation that occurs in economic growth is responsible for the scrutinized independent variables. Further, to confirm the stability of the model, we conduct a model stability test using CUSUM and CUSUM square tests. The results of model stability have shown that our model is stable as depicted in Figures 2 and 3.

4. DISCUSSION OF THE RESULT

The type of oil price shock effects on a country's economic growth depends on whether the country is a net oil importer or exporter. If the country is a net oil importer such as Somalia, a positive shock in oil price will harm economic growth. If the country is a net oil exporter, a positive shock in oil price will have a positive impact on economic growth (Kriskkumar et al., 2022). Regarding the long-run results of the study, it is observed that a positive shock in oil price is inconsequential in the long run; whereas a negative shock in oil price has a constructive role in enhancing economic growth in the long run. This could be justified in that biofuels represent a main source of energy in Somalia. Hence, a decrease in oil price implies a high oil demand which is a greasing wheel for economic growth. A sustained decrease in oil prices will augment economic growth and improve the external and fiscal balances of Somalia. On the other extreme, a positive shock in oil price does not exert any inhibiting effects on economic growth in the long run in Somalia but impedes economic growth in the short run. This implies that

Figure 2: CUSUM

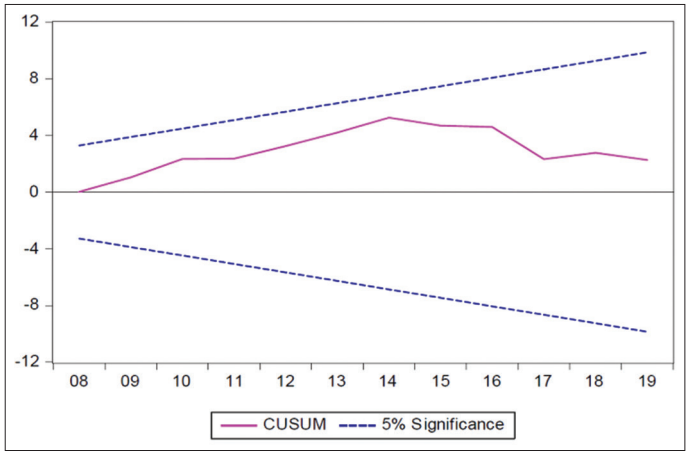
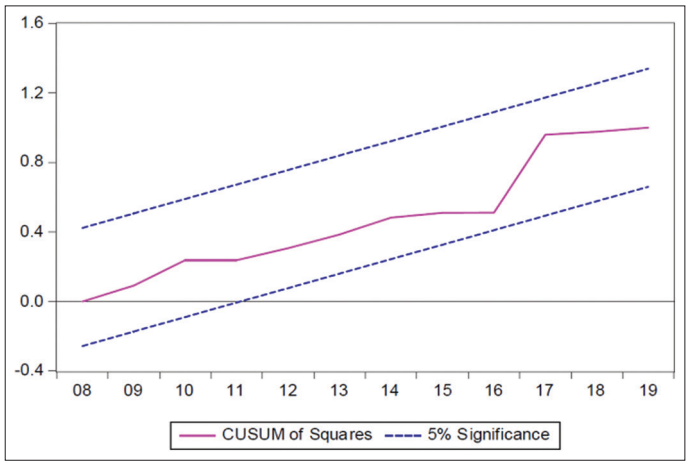


Figure 3: CUSUM square



the oil price hike is only felt in the short run but not in the long run. This could be explained that energy demanders could find other alternatives to oil in the long run such as charcoal and firewood but not in the short run. Hence, an increase in oil price will exert energy demanders to substitute oil consumption with charcoal and firewood in the long run. But in the short run, these oil energy alternatives are not available. In addition, despite Somalia being an oil-importing country, its volume of oil-import and consumption is insignificant which offsets the adverse consequences of oil price hikes in the long run.

The existing literature has produced various results regarding the effects of oil prices on economic growth. Several studies have backed our results such as; Akinsola and Odhiambo, (2020) who found out that a negative shock in oil price supports economic growth in oil-importing countries, whereas a positive shock in oil price undermines economic growth of oil-importing countries. This is further supported by Jiménez-Rodríguez and Sánchez, (2005) in a sample of OECD countries. Lardic and Mignon, (2006) also supported the presence of asymmetric Cointegration between oil price and economic growth in a sample of European countries. In contrast, Prabheesh and Laila, (2020) have produced positive shocks in crude and palm oil prices to enhance economic growth in Indonesia, whereas a negative shock in these oil prices retards economic growth. Several others have concluded that a negative

shock in oil price hampers economic growth in oil-exporting countries and a positive shock in oil price enhances economic growth in these countries (Berument et al., 2010; Kriskkumar et al., 2022; Kriskkumar and Naseem, 2019), hence, these studies are contrary to the findings of our study that a negative shock in oil price enhances the economic growth in Somalia.

5. CONCLUSION AND POLICY IMPLICATIONS

This study ascertained the impact of oil prices on economic growth in Somalia from 1990 to 2018. Somalia is an oil-importing country, and an increases in oil price undermine economic growth. Oil prices could have a nonlinear impact on economic growth. Hence, to uncover the nonlinear relationship between oil price and economic growth, we employed a NARDL Cointegration method postulated by Shin et al. (2014). This method decomposes oil prices into negative and positive partial decompositions.

The empirical results revealed that oil price shocks have asymmetric effects on economic growth in the long run. A positive oil price shock does not exert any significant effect on economic growth in the long run because it is statistically insignificant. But a negative oil price shock has a significant constructive role in increasing economic growth in the long run in Somalia. In addition, the control variables incorporated in the model are insignificant except for population growth. Population growth significantly contributes to the economic growth in the long run in Somalia. Gross fixed capital formation and agriculture production are statistically insignificant in the long run. Furthermore, the short-run dynamic effect indicated that oil price asymmetrically affects economic growth in the short run. A positive oil price shock is significant and has a negative coefficient compared to a negative shock in the oil price which is insignificant. A positive shock increase in oil price hampers economic growth in the short run in Somalia. Moreover, gross fixed capital formation has a significant positive impact on economic growth in the short run. On the contrary, population growth is not different from zero which implies that it's statistically insignificant in the short run. But agriculture production significantly enhances economic growth in the short run. Our result of ECT is negative and significant, hence, shows any deviations that occur in economic growth are adjusted by 3.8% by the scrutinized explanatory variables.

Based on the empirical findings, the study suggests several policy recommendations. First, despite the oil price surge hampers economic growth in the short run; we recommend the implementation of economic diversification towards utilizing other types of energy other than oil. Second, policies aimed at increasing energy investments should be implemented. This will lead to the production of enough energy supply for the country and make exports to the world as this will generate revenue for the government.

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