Vol.12, No.1, pp.12-25, 2024

Print ISSN: 2053-2199 (Print),

Online ISSN: 2053-2202(Online)

Website: https://www.eajournals.org/

Publication of the European Centre for Research Training and Development -UK

# Effect of Oil Price Shocks on Selected Macroeconomic Variables in Nigeria (1990-2021)

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doi: https://doi.org/10.37745/ijdes.13/vol12n11226

Published January 22, 2024

**Citation**: Bamaiyi G. (2024) Effect of Oil Price Shocks on Selected Macroeconomic Variables in Nigeria (1990-2021), *International Journal of Development and Economic Sustainability*, Vol.12, No.1, pp.12-26

**ABSTRACT**: This study investigates the impact of oil price shocks on selected macroeconomic variables in Nigeria from 1990-2021. The research employs ex-post facto methodology and econometric analysis, focusing on variables such as oil price, unemployment, balance of payment, exchange rate, and real gross domestic product (GDP). Utilising the annual Vector Autoregressive (VAR) model, the study explores the relationships among these variables, assuming them to be endogenous. Time series data from the Central Bank of Nigeria's statistical bulletin is collected for the analysis. The result of the unit root test indicate that all the variables are integrated of order one (I (1)), necessitating further investigation into their relationships. Impulse response function revealed the dynamic responses of macroeconomic variables to oil price shocks over a ten-year period. Granger causality test highlight causal relationship among the variables, emphasizing the influence of oil price shocks on unemployment, balance of payment, and real GDP. The findings suggest that oil price shocks significantly affect the selected macroeconomic variables, with implications for exchange rates, unemployment rates, and balance of payments. The study recommends policy measures to insulate the economy from international oil price shocks, such as diversification, encouraging local production, and creating a favourable environment for foreign direct investment. Additionally, the government is advised to formulate and implement fiscal and monetary policies strategically to stabilise the economy amidst oil price fluctuations, thereby promoting sustainable economic growth.

**KEY WORDS**: Vector Autoregressive (VAR), Oil Price Shocks, Impulse Response Function, Foreign Direct Investment (FDI), Central Bank of Nigeria (CBN)

# INTRODUCTION

Oil, often termed as 'black gold,' holds a unique position in global economies, driving growth and development in oil-rich countries. The impact of oil prices on economies, especially in developing countries like Nigeria, is multifaceted. While developed oil producers benefit from value addition

International Journal of Development and Economic Sustainability Vol.12, No.1, pp.12-25, 2024 Print ISSN: 2053-2199 (Print), Online ISSN: 2053-2202(Online) Website: <u>https://www.eajournals.org/</u>

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and stability, Nigeria, primarily exporting crude oil, faces challenges (Ikechi and Anthony 2020: Akinola, 2022). In the middle East, Asia and Eastern Europe countries, where oil is found have their growth rates between 15 % to 30 % of their gross domestic product (GDP) with increasing employment opportunities, favourable balance of payments. However, being a global product, it is high influenced by OPEC quota and regulations international market activities as these activities determines oil price (Abaas, et al., 2018: Osintseva, 2021). Nigeria's economy heavily relies on oil, with crude oil exportation being the main source of revenue for the country. Fluctuation in the international crude oil prices have significant implications for the Nigeria's economic growth (Gbadamosi et al., 2022). Ayoola (2013) argues that Nigeria as a mono-product economy, remains susceptible to the movements in international crude oil prices. Yusuf (2015) also contends that oil plays a critical role in Nigeria in the conduct of fiscal and monetary policies because it accounts for average of 80% of government revenue, 90 % to 95% of the foreign exchange earnings and 12% of the real gross domestic product.

Despite Nigeria's potential for economic growth and its status as a major oil producer in Africa, the country has experienced an increasing proportion of impoverished population and continuing stagnation of the economy. The crash and fluctuation of oil prices during the global economic crisis further exacerbated these issues. Nigeria's economy is heavily dependent on oil revenue, leading to lack of diversification of the economy gateways and an import-dependent economy prompting imbalance trading at the global market. The country export base is weak, primarily on oil as a single primary product. This dependence on oil earnings has been used to finance government consumption expenditure, rather than investing in other sectors or improving the overall economy (Oduyemi and Owoeye, 2020)

However, oil export constitutes more than 90% of the total export base, and receipts from exporting oil account for more than 50% revenue source for the government (Central Bank Nigeria, 2017). With oil export being the mainstream of Nigeria's export basket, constituting more than 90% oil export, coupled with inflows from oil export accounting for more than half of the revenue accrued to the government, and equally massively importing refined petroleum and other related products, the economy has continue to battle with dwindling and unstable oil revenue, alongside negative trade or merchandise balance, which therefore translates to deficit in Nigeria's Balance of Payments (BOP), since inflow from oil export dominates the current account and oil export accounts for more than 50% of total trade Central Bank Nigeria (2017). The dwindling nature of inflow from oil export which is basically due to the instability and volatile nature of oil price has also caused the economy-crushing debt services burden, depreciation of the exchange rate, declined domestic demand and the inability of the economy to tailor its import needs to the available foreign earnings. It is however imperative to state that oil price shock greatly affect the balance of payment stance of Nigeria, and other components of the external sector since inflows into the current account were dominated by crude oil and gas exports, accounting for more than 90 percent of total exports and more than 60 per cent of total inflows, Ogwu (2018). Evidently, most studies regarding oil price shocks were either concerned with its impact on the economy,

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economic growth, exchange rate or other macro-economic factors, Unemployment is one of the major macroeconomic problems that every economy is trying to reduce to an acceptable level, because if it is not properly managed it could have other negative social and economic outcomes, Ahmad (2013).

Meanwhile, contrary to the expectations of the positive effect of rising oil prices to economic growth of Nigeria, unemployment has been on the rise. Unemployment is one of the major macroeconomic problems that every economy is trying to reduce to an acceptable level, the prices of petroleum products fall between №142 to №155per litter between 2015 & 2020 (National Bureau of Studies, 2020). Nigeria's inability to process most of its petroleum on the domestic market forces the Nation to import, leaving its macroeconomics very sensitive to external oil price shocks. Oil price shocks is like an infectious illness that Nigeria can't escape since it impacts every area of the country's economy.

There is no doubt that the total dependence on oil and its attendant corruption and constant shocks in the oil price are the major causes of poverty and under-development in oil-producing African countries. The current living standard in Nigeria showed that about 60% of her citizen live below \$1 per day. The resulting decline in the non-oil sector reinforces sharp decline in the economic growth rate when the price of crude oil falls. This paper therefore examines the impact of the shock of oil prices and the Nigeria economy and the Nigerian economy is currently facing a lot of challenges and most economic analysts attributed this to the fluctuating prices of crude oil in the international market. Crude oil price changes in the international market could have an impact on any economy due to the link between crude oil and all economic activities all over the world and over the years, the shocks of oil price in the international market. This study revolves around answering the following research questions What is the effect of crude oil price shocks on exchange rate in Nigeria? Estimate the impact of crude oil price shocks on unemployment in Nigeria? What's the effect of crude oil price shocks on balance of payments in Nigeria? How much impact does crude oil price shocks have on real gross domestic product in Nigeria? Also, this paper will test these hypotheses are as follows:

Ho1: Crude oil price shocks have no significant effect on exchange rate in Nigeria.Ho2: There is no significant effect of oil price shocks on unemployment in Nigeria.Ho3: There is no significant effect of oil price shocks on balance of payments in Nigeria.Ho4: There is no significant effect of crude oil shocks on real gross domestic product.

# LITERATURE REVIEW

#### Unemployment

Unemployment occurs when the supply of labor is more than its demand. It is when active individuals within the age that qualifies to work and earn income do not work because they cannot find a job. The unemployed are people of the labor age who are without work, are available for

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work, and have taken specific steps to find work. The uniform application of this definition results in estimates of more internationally comparable unemployment rates as opposed to calculations based on national definitions of unemployment. This performance indicator calculates the number of unemployed people as a percentage of the labor force. The labor force is the total number of unemployed people plus those employed ("Unemployment - Harmonized unemployment rate (HURL) - OECD Data," 2022). Unemployment is essentially unused productive capacity that could have contributed to economic output, and the unemployed population reduces per capita productivity, which is the primary indicator of economic development. As a result, many academic studies have confirmed the relationship between unemployment and the economic development of countries because of the perception that employment and the labor force drive economic output. In the same vein, an operational definition of unemployment for this work will include the underemployed, hence unemployment occurs when people who are able and willing to work are without jobs, or cannot find work that is effective and productive to do. It also occurs when people undertake jobs that are contrary or lower than their academic qualifications or areas of specialization.

#### **Balance of Payment**

The balance of payment, otherwise called the balance of international payments is a very important macroeconomic indicator as it serves as the balance sheet of an economy. Broni-Bediako, Onyije & Unwene (2018) define balance of payment as the documentation of all economic operations between residents of a country and the rest of the world within a given time frame. It recaps an economy's dealings with other countries of the world. CBN (2020) defines balance of payments as a systematic record of economic and financial transactions for a given period between residents of an economy and non-residents. These transactions involve the provision and receipts of real resources and changes in claims on, and liabilities to the rest of the world. The fact that no nation is self-sufficient has led to interdependency in the need to exchange goods and services among economies, and this transnational trade among economies is possible only through the buying and selling of a country's currency hence, the need for exchange rate. Exchange rate shows the value of one country's currency in relation to another.

# **Real Gross Domestic Product**

It measures gross domestic product by considering the values of inflation or deflation. The real gross domestic product as a result of that gives more realistic assessment of growth. Otherwise, it might seem, a country is producing more while its actual prices are going up. It therefore explains how much the economy is producing. to boost economic and reduce poverty level such that it does not suffer from macro-economic instability Leslie Kramer (2020) defines RGDP is the monetary value of all the finished goods and services produced within a country's borders in a specific time. It is primarily used to assess the performance of a country's economy. The overall performance could be measured as a flow of final products or as a flow of cost. This implies that Gross Domestic

International Journal of Development and Economic Sustainability Vol.12, No.1, pp.12-25, 2024 Print ISSN: 2053-2199 (Print), Online ISSN: 2053-2202(Online) Website: <u>https://www.eajournals.org/</u> Publication of the European Centre for Research Training and Development -UK

Product takes into consideration the market price of every good or service instead of adding up the quantities of the products and services directly.

#### **Exchange Rate**

Exchange Rate is the rate at which a country's currency exchanges for another or converted into another. In other words, it is the value of one country's currency in relation to another currency. Each country determines the exchange rate regime that will apply to its currency. For example, a country may be floating, pegged (fixed), or a hybrid. Government can impose certain limits and controls on exchange rates. Countries can also have a strong or weak currency. There is no agreement in the economic literature on the optimal national exchange rate regimes reflect of trade where free trade is considered optimal). Rather, national exchange rate regimes reflect political considerations. In floating exchange rate regimes, exchange rates are determined in the foreign exchange market, which is open to a wide range of different types of buyers and sellers, and where currency trading is continuous except on weekends. The spot exchange rate is the current exchange rate, while the forward exchange rate is quoted and traded today but for delivery and payment on a specific future date, (James, C. & Gordon, S. 2021).

#### **Oil Price Shock**

Oil price shocks are the increase or decrease in the prices of oil per barrel sold in the international market. The Brent crude is used to measure the price of oil in dollar because it is the largest in Africa among many major oil classifications (Mathew and Harold, 2017). Baumeister and Kilian (2016a) defines oil price shocks as unanticipated components of a substantial change in the price of oil which is defined as the difference between the expected and realized oil price. Oil price shocks in Nigeria are predominately defined concerning price shocks resulting from changes in either the demand or supply side in the international markets. These changes are unexpected and unpredictable and have traditionally traced to supply side disruption such as OPEC supply quotas, political upheavals in the oil rich middle east nations.

#### **Theoretical Review**

The overview of existing theoretical review relating to oil shocks have to be examined. This study theoretical framework is anchored on The Dutch Disease

# The Dutch Disease Theory of Economic Growth

This theory posits that higher oil prices would generally alter the production structure of the oilexporting country to ensure that it concentrates more on oil production and exploration while ignoring the growth of the other sectors of the economy. The accruing increased levels of oil revenues would make for the appreciation of the country's local currency and induce an increase in the country's taste for and import of consumer goods. Consequently, the tendency for increased International Journal of Development and Economic Sustainability Vol.12, No.1, pp.12-25, 2024 Print ISSN: 2053-2199 (Print), Online ISSN: 2053-2202(Online) Website: <u>https://www.eajournals.org/</u> Publication of the European Centre for Research Training and Development -UK

import of consumer goods would reduce the competitiveness and discourage the local producers. Therefore, the Dutch disease theory contends that an increase in oil prices will not eventually benefit the economy of an oil-exporting country, Corden & Neary (1982).

# METHODOLOGY

This study employs This study employs quantitative methodology to examine the dynamic relationship among key macroeconomic variables in Nigeria from 1990 to 2021. The research design integrates ex-post facto analysis and econometric modeling, aiming to provide a comprehensive understanding of the impact of oil price shocks on selected economic indicators. The study focuses on the variables of oil price, unemployment, balance of payment, exchange rate, and real gross domestic product (GDP). Secondary data was collected from the Central Bank of Nigeria's Statistical Bulletin (2021), ensuring the reliability and consistency of information. The time series data spans from 1990-2021, allowing for a thorough examination of long-term trends and relationships.

# **Model Specification**

The estimation involves an annual Vector Autoregressive (VAR) model, building upon the pioneering work of Sims (1980). This modeling choice is well-suited for capturing the intricate dynamics between oil price shocks and aggregate economic activities in Nigeria. All considered variables are assumed to be endogenous in the VAR framework.

The VAR model of order (p) is therefore compactly specified as,

$$Y_{t} = C_{O} + \sum_{i=1}^{P} \Phi_{i} Y_{t-i} + \mathcal{E}_{t}$$

Where:

 $Y_{et}$  = vector of endogenous variables under consideration at time t.

 $C_o$  = the intercept vector of the VAR model,

 $\Phi_i$  = the sequence of matrix of autoregressive coefficients of I = 1, 2...p and

 $Y_{eti}$  = lagged value of the endogenous variables

$$\varepsilon_t$$
 = the generalization of a white noise process or shocks in the languages of VAR.

The model can be explicitly specified as below:

$$op_{t} = \alpha_{1t} + \sum_{j=1}^{q} \beta_{j} OilP_{t-j} + \sum_{j=1}^{q} \gamma_{j} RGDP_{t-j} + \sum_{j=1}^{q} \delta_{j} EXR_{t-j} + \sum_{j=1}^{q} \theta_{j} UMP_{t-j} + \sum_{j=1}^{q} \omega_{j} BOP_{t-j+} \mu_{t}$$

$$3.2$$

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$$GDP = \alpha_{1t} + \sum_{j=1}^{q} \beta_j \operatorname{OilP}_{t-j} + \sum_{j=1}^{q} \gamma_j \operatorname{RGDP}_{t-j} + \sum_{j=1}^{q} \delta_j \operatorname{EXR}_{t-j+} \sum_{j=1}^{q} \theta_j \operatorname{UMP}_{t-j} + \sum_{j=1}^{q} \omega_j \operatorname{BOP}_{t-j+} \mu_t$$
3.3

$$\sum_{j=1}^{q} \operatorname{Exe}_{rt} = \alpha_{1t} + \sum_{j=1}^{q} \beta_j \operatorname{OilP}_{t-j} + \sum_{j=1}^{q} \gamma_j \operatorname{RGDP}_{t-j} + \sum_{j=1}^{q} \delta_j \operatorname{EXR}_{t-j} + \sum_{j=1}^{q} \theta_j \operatorname{UMP}_{t-j} + \sum_{j=1}^{q} \omega_j \operatorname{BOP}_{t-j+}$$

$$3.4$$

$$Ump = \alpha_{1t} + \sum_{j=1}^{q} \beta_j \operatorname{OilP}_{t-j+} \mu_t + \sum_{j=1}^{q} \gamma_j \operatorname{RGDP}_{t-j+} \sum_{j=1}^{q} \delta_j \operatorname{EXR}_{t-j+} \mu_t \sum_{j=1}^{q} \theta_j \operatorname{UMP}_{t-j+}$$

$$\sum_{j=1}^{q} \omega_j \operatorname{BOP}_{t-j+} \mu_t \qquad 3.5$$

$$Bop = \alpha_{1t} + \sum_{j=1}^{q} \beta_j \operatorname{OilP}_{t-j} + \sum_{j=1}^{q} \gamma_j \operatorname{RGDP}_{t-j} + \sum_{j=1}^{q} \delta_j \operatorname{EXR}_{t-j} + \sum_{j=1}^{q} \theta_j \operatorname{UMP}_{t-j} + \sum_{j=1}^{q} \omega_j \operatorname{BOP}_{t-j+\mu_t}$$
3.6

Where;

UMP: Unemployment Rate

**BOP:** Balance of Payment

Oil: Oil Price Shock

EXPR: Exchange Rate

**GDP: Real Gross Domestic Product** 

 $\alpha_{1t}$  to  $\alpha_{6t}$  are the intercepts

 $\beta_1$ ,  $\beta_2$ ,  $\beta_3$ ,  $\beta_j$ ,  $j_{ob}$ ,  $j_{ob}$ ,  $\phi_j$ ,  $\omega_j$  and  $\theta_j$ , are coefficients for the lagged values of the variables under consideration as defined earlier.

 $\mathbf{u}_{1t}$  to  $\mathbf{u}_{6t}$  are the white noise error terms or impulses or innovations.

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Print ISSN: 2053-2199 (Print),

Online ISSN: 2053-2202(Online)

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#### PRESENTATION OF RESULT AND DISCUSSION

#### Table 1. Results of ADF Unit Root Tests

	Level		First Difference		Order of	
Variables	ADF	p-value		ADF	p-value	Integration
OILP	-1.923	0.617		-4.835***	0.001	I (1)
UMP	-2.925	0.171		-5.798***	0.000	I (1)
BOP	-2.515	0.319		-5.115***	0.000	I (1)
RGDP	-2.212	0.465		-2.901*	0.058	I (1)
EXR	-0.578	0.973		-3.829***	0.007	I (1)

Notes: Lag length in the ADF test is automatically selected using the Schwarz Information criterion (SIC). \*\*\*, \*\* and \* indicate statistical significance at 1%, 5% and 10%

Table 1 presents the results of Augmented Dickey-Fuller (ADF) Unit Root Tests assessing the stationarity of key variables at both the level and after taking the first difference. The findings reveal that, at the level, variables such as Oil Price (OILP), Unemployment Rate (UMP), Balance of Payment (BOP), Real Gross Domestic Product (RGDP), and Exchange Rate (EXR) exhibit unit roots, indicating non-stationarity. However, after differencing, all variables demonstrate stationarity, suggesting integration of order one (I (1)). Notably, the statistically significant p-values for the first differences underscore the effectiveness of this transformation in achieving stationarity. These results are essential for subsequent time series analyses, confirming the suitability of the data for econometric modeling.

#### **Impulse Response Function (IRF) Results**

The generalized impulse response functions trace out the responsiveness of the dependent variable in the VAR model to shocks to each of the variables. For each equation, a unit shock is applied to the error, and the effects upon the VAR system over ten periods are noted. Figure 2 shows impulse response of the macroeconomic variable to OILP shock included in its own shock response.

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Online ISSN: 2053-2202(Online)

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Figure 1. Impulse Response Function to Oil Price Shock

Figure 1 depicts the impulse responses of key macroeconomic variables to a one standard deviation shock in Oil Price (OILP). The analysis reveals a consistently positive and lasting response of OILP to its own shock over the ten-year period, maintaining a steady decline. This suggests a persistent positive relationship between OILP and itself. Regarding Real Gross Domestic Product (RGDP), there is an initial positive response in the first five years, followed by a declining trend,

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Print ISSN: 2053-2199 (Print),		
Online ISSN: 2053-2202(Online)		
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indicating a positive impact in the early years but a negative effect thereafter. Exchange Rate (EXR) exhibits a negative trend in the first four years in response to OILP shock, signifying a potential impact on foreign exchange (FOREX) in Nigeria. However, a positive trend emerges after the fifth year, suggesting a nuanced relationship between EXR and OILP. The Impulse Response Function illustrates the varying responses of Unemployment Rate (UMP) and Balance of Payment (BOP) to OILP shocks over time, emphasizing the complexity and duration of their reactions. Overall, the finding provides significant insights into the dynamic relationship between oil price and macroeconomic variables, contributing to the understanding of their interplay in Nigerian economy.

Depe	endent variable: OILI	P	
Excluded	Chi-sq	Df	Prob.
UMP	26.50787	3	0.0000
BOP	6.172806	3	0.1035
RGDP	8.302794	3	0.0402
EXR	15.97167	3	0.0011
All	38.96698	12	0.0001
Depe	endent variable: UMI	)	
OILP	2.897903	3	0.4076
BOP	1.668587	3	0.6439
RGDP	4.618592	3	0.2020
EXR	0.868942	3	0.8329
All	11.27509	12	0.5055
Dep	endent variable: BOF	)	
OILP	0.921009	3	0.8204
UMP	12.95252	3	0.0047
RGDP	10.38415	3	0.0156
EXR	9.800580	3	0.0203
All	46.59388	12	0.0000

Table 3.	Results	of the	Granger	<b>Causality/Block</b>	<b>Exogeneity Tests</b>
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Online ISSN: 2053-2202(Online)

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]	Dependent variable: R	GDP				
OILP	13.41962	3	0.0038			
UMP	12.56376	3	0.0057			
BOP	2.332857	3	0.5063			
EXR	10.77116	3	0.0130			
All	70.39037	12	0.0000			
Dependent variable: EXR						
OILP	1.114901	3	0.7735			
UMP	2.747209	3	0.4323			
BOP	1.799961	3	0.6149			
RGDP	1.778913	3	0.6195			
All	9.264538	12	0.6802			

The results of the Granger causality and block exogeneity tests are presented in Table 3. The results show that oil price (OILP) is Granger caused by UMP, RGDP and EXR respectively, while BOP does not Granger caused OILP. However, jointly, UMP, BOP, RGDP and EXR Granger caused OILP. On the other hand, none of the variables individually and jointly Granger caused unemployment (UMP). This means that unemployment in Nigeria is caused by other fundamentals of the economy. On the other hand, balance of payment is Granger caused by unemployment, RGDP and EXR. This means growth and expansion in economic activities which will lead to better trade balance and favourable exchange rate also results in improvement in balance of payment. Jointly, UMP, RGDP, BOP and EXR Granger caused BOP.

More so, RGDP is Granger caused by oil price, unemployment and exchange rate, while no causality is found between RGDP and BOP. This confirms the dependence of the Nigerian economy on oil and gas sector, which is the major earner of government revenue and foreign exchange. Together, OILP, UMP, BOP and EXR Granger caused RGDP, which means the level of output in the Nigerian economy is determined by the fundamentals of the economy. Finally, no causality is found running from any of the variables to exchange rate individually and jointly. This means that EXR is strictly exogeneous.

# **DISCUSSION OF FINDINGS**

This study examined the effect crude oil price shocks and selected macroeconomic variables in Nigeria, unveiling crucial insight with significant policy implication. The empirical analysis reveals the vulnerability of the chosen macroeconomic variables to oil price shocks, particularly in the context of exchange rates (Ji *et al.*, 2020). The persistent depreciation of the domestic

International Journal of Development and Economic Sustainability Vol.12, No.1, pp.12-25, 2024 Print ISSN: 2053-2199 (Print), Online ISSN: 2053-2202(Online) Website: <u>https://www.eajournals.org/</u>

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currency throughout the entire period is a cause for concern. This across-the board impact on all selected variables underscores the urgent attention required from policymakers. The looming potential for a currency crisis, especially in the aftermath of the negative oil price shocks or fluctuation in the international oil market, raises concerns.

The depreciation of the exchange rates not only has repercussions for the cost of imports but also exerts an insubstantial influence on the balance of payments. The correlation between crude oil price shocks and a negative, significant impact on the selected macroeconomic variable, including oil prices, unemployment rates, balance of payments, exchange rates, and real gross domestic product, is evident. As the shocks intensify, there is a simultaneous decline in these variables, signifying a critical linkage between oil price movement and the overall economic landscape.

The positive correlation between oil price and economic growth in oil-producing countries likes Nigeria is validated by the studies conducted by Dauda et al., (2023). However, the disruptive nature of oil price shocks introduces uncertainty and undermines effective fiscal management of crude oil revenue, leading to a precarious and unstable trajectory for the Nigerian economy following such shocks. This is supported by the findings by Gbadamosi et al., (2022), which highlights the negative impact of oil price fluctuations on Nigeria's economic growth, exchange rate, and inflation. The study by Richard and Dodo, further emphasize the adverse effects of petroleum price change on the food items in Nigeria, leading to increased poverty (Richard and Dodo, 2023). Therefore, while higher oil price fluctuation posed significant challenges to its long-term stability and development.

Based on these findings, policymakers, particularly the government, are urged to adopt proactive measures aimed at fortifying and stabilising the macroeconomic structure of Nigeria. A crucial aspect of this entails a deliberate move toward economic diversification, reduce reliance on oil revenue. Additionally, advocating for renewable energy sources could offer a sustainable alternative, mitigating the adverse impacts of oil price shocks and fostering a more resilient and adaptable economic environment. This imperative shift in policy focus is paramount to navigating the challenges posed by the unpredictable nature of global oil markets and ensuring the long-term stability and prosperity of the Nigerian economy.

# Recommendations

Based on the findings that have been established and the conclusion is drawn from the study, the following recommendations are necessary:

(i) There is a need for policymakers (government) to focus on policy that will strengthen and stabilize the macroeconomic structure of Nigeria economy with a specific focus on diversifying the economy (reduction of dependence on oil proceeds) or advocating for renewable energy. The government should diversify its export revenue base as a means of

Vol.12, No.1, pp.12-25, 2024

Print ISSN: 2053-2199 (Print),

Online ISSN: 2053-2202(Online)

Website: https://www.eajournals.org/

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minimizing the reliance on the sale of crude oil and petroleum product. The government should formulate policies that are economically friendly in order to encourage local production to boost our exports and improve our local currency (Naira) and the exchange rate.

- (ii) There is a need to insulate the economy from international oil price shocks with homemade solutions. Nigeria needs a set of a policy packages that could reverse the shadow macroeconomic situation. The kind of diversification Nigeria needs is that which will lessen export-import dependence through import substation with domestic refineries, the provision of a significant proportion of goods and services previously imported from expanded domestic production. The diversification policy direction entails the conscious development of other important producing sectors of the economy like agriculture and industry
- (iii) The use of fiscal policy tools to reduce the extent of oil price shocks coupled with the monetary policy tools should be complemented carefully and appropriated, due to direct use of fiscal policy and carefully thought of monetary policy to avoid distortion in monetary policies implementation of stabilizing the economy.
- (iv) The government should in place policies that will create more jobs and reduce unemployment. The manufacturing and industrial sectors should be strengthening and more investment should be done by government should be done. Also, government needs more foreign direct investment inflows into Nigeria and also provides an enabling environment to attract more foreign direct investment into the country and policy measures that will help to open up the Nigeria economy such as the removal of restrictions on profits, provisions of adequate securities and the relaxations of restrictions on capital remittances will help and be useful in creating employment.
- (v) More production of goods and exports should be encouraged so that the Nigerian economy should be an export-based economy rather than a consuming economy. Production should be encouraged so that the Naira will appreciate and more investment in the Nigeria economy will take place and the Nigeria GDP will increase. As an increase in the oil price has really helped in boosting our GDP.

# REFERENCES

- Abaas, M. S., Chygryn, O., Kubatko, O. & Pimonenko, T (2018). Social and economic drivers of national economic development: the case of OPEC countries. *Problems and Perspectives in Management*, 16(4), 155-168. doi:10.21511/ppm.16(4).2018.14
- Akinola, A, O., (2022), 'The Nigerian Oil Economy and the Rentier State', in Toyin Falola, and Matthew M. Heaton (eds), *The Oxford Handbook of Nigerian History* (2022; online edn, Oxford Academic, 18 Mar. 2022), https://doi.org/10.1093/oxfordhb/9780190050092.013.27,
- Baumeister, C. & Kilian, L. (2016a). Forty Years of Oil Price Fluctuations: Why the Price of Oil May Still Surprise Us. Journal of Economic Perspective, 30(1), 139-160.

Vol.12, No.1, pp.12-25, 2024

Print ISSN: 2053-2199 (Print),

Online ISSN: 2053-2202(Online)

Website: https://www.eajournals.org/

Publication of the European Centre for Research Training and Development -UK

- Broni-Bediako, E., Onyije, I. J. & Unwene, K. K. (2018). Economic effects of oil price volatility on developing countries: A case study of an oil exporting country. International Journal of Economics and Management Sciences, 7(2), 1-5.
- Central Bank of Nigeria (2020). Central Bank of Nigeria Annual Statistical Bulletin, 31(August). Abuja, Nigeria.
- Corden.W. Max & Neary.J. Peter (1982) Dutch Disease, Oxford Economic Paper 1982
- Dauda, M., Alege, P. O., Ewetan, O. O., & Asemota, F. F. (2023). Oil Revenue and Sustainable Economic Growth in Nigeria: Empirical Analysis. *International Journal of Energy Economics and Policy*, 13(4), 150–155. https://doi.org/10.32479/ijeep.14010
- Gbadamosi I.I., Ayoola F.J., Adeosun O.T. (2022), Crude Oil Price and Macroeconomic Variables Nexus: Impact on Nigeria's Economic Growth. African Journal of Mathematics and Statistics Studies 5(3), 126-141. DOI: 10.52589/AJMSSGWHHVFP0
- James, C. & Gordon, S. (2021) "Triennial Central Bank Survey", Foreign (other countries) exchange turnover in April 2013: preliminary global result monetary and economic department (PDF) Bis.org. Retrieved 23, December 2017.
- Ikechi, K. S & Anthony, N. (2020) Global Oil Price Shocks and Effects on Economic Growth: An Econometric Investigation of Nigeria. *International Journal of Innovation and Economic Development*, 6(4), 7-26, http://dx.doi.org/10.18775/ijied.1849-7551-7020.2015.64.2001
- Ji, Q., Shahzad, S. J., Elie Bouri, E. & Suleman, M. T, (2020) Dynamic structural impacts of oil shocks on exchange rates: lessons to learn. *Journal of Economic Structures*, 9(20), 2-19
- Leslie Kramer (2020, October 17): What is GDP and why is it so important to economist and investors? Retrieved from https://www.investopedia.com/ask/answers/what-is-gdp-why-its-important-toeconomis
- Mathew, E.R. & Harold, N. (2017). Oil Price Shocks and Economic Performance in Africa' Oil Exporting Countries. Acta Universitatis Danubius CEconomica, 13(5), 169-188.
- Oduyemi, G., & Owoeye, T. (2020). Oil Price Fluctuation and Health Outcomes in an Oil Exporting Country: Evidence from Nigeria. *International Journal of Energy Economics and Policy*, *10*(4), 212–220. https://econjournals.com/index.php/ijeep/article/view/9266
- Osintseva, M. A (2021) Influence of Oil Factor on Economic Growth in Oil-exporting Countries. *International Journal of Energy Economics and Policy*, 12(1), 217-224, DOI: https://doi.org/10.32479/ijeep.11794
- Richard K. N., & Dodo, F. E (2023). Impact of Petroleum Products Price Changes on Prices of Food Items in the Nigerian Economy. *Journal of Development Economics and Finance*, 4, (1), 79-95. https:// DOI: 10.47509/ JDEF. 2023.v04i01.05
- Unemployment harmonized unemployment rate (HUR) OECD Data. The OECD (2022). Retrieved July 29, 2022, from https://data.oecd.org/unemp/harmonised-unemployment-rate-hur.htm.