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Article

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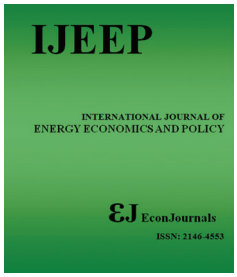

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Oil Price Shock and Macroeconomic Performance in Nigeria: Implication on Employment

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ABSTRACT

Reduction in oil price in the international market, coupled high demand of foreign goods and wide swings of oil prices in the international market has posed different challenges for policies to promote growth and development. This study investigates the impact of oil shock on macroeconomic performance in Nigeria using Structural Vector Autoregression and normalized equation was used to establish the long-run equation. Evidence from the long-run relationship showed that employment has a negative relationship with aggregated output, exchange rate and oil prices. The interest rate and consumer price index has a positive relationship with employment. Variation in oil shock affects most of the macroeconomic variables. More explicitly, the oil price shock shows more variation across the time horizon for employment. The consequence of the result is that dependence on the oil sector has not promoted employment generation over time; there is a need to consider an alternative means to ensure sustainable growth and development.

Keywords: Oil Price, Employment, Macroeconomic Performance
JEL Classifications: F62, Q43, Q52

1. INTRODUCTION

Ever since the discovery of oil in 1970s, the Nigerian economy has depended on the sector as the main source of revenue. The heavy dependence on the oil sector, which accounted for about 95 per cent of export earnings and more than 85% of government revenue has exposed the country to both internal and external shocks affecting the macroeconomic performance. Kim and Loughani (1992) stressed continuous oil shock could have a negative implications on the economy. Likewise, the wide swings of oil prices in the international market has posed different challenges for policies to promote growth and development (Asaleye et al., 2019; Obadiaru et al., 2018). In current time, the Nigerian government has emphasised on the diversification of the economy, one of the main reasons for this call is as the result of uncertainty in the oil sector. Sustaining macroeconomic stability is imperative to improve the macroeconomic problems the country is facing for decades such as high unemployment rate, poverty rate and low standard of living (Asaleye et al., 2018; Asaleye et al., 2018; Lawal *et al*, 2018). Majidi (2006) opine that positive relationship exist between oil price and instability of macroeconomic variables. The first requirement to achieve sustainable growth and development has identified in the Nigerian Economic Recovery Growth Plan (2017) is to maintain stable macroeconomic environment characterized with low inflation, favorable exchange rate and sustainable fiscal and external balances.

In the last decade, the global economy has crumbled due to the global financial crisis in 2008. Consequently, the oil price in the international market dropping from 114 US dollar per barrel to 28

US dollar per barrel in the period of 2014 and 2016, coupled high demand of foreign goods. Many policy makers view this as the main source of economic fluctuation in recent times as well as a paradigm of high unemployment rate, inflation rate, poverty rate and low standard of living. Likewise, scholars have stressed that Nigeria has enjoyed continually economy growth before the recession in the second quarter of 2016. However, the growth witnessed has not improved the employment and welfare situation in the country (Adama et al., 2017; Asaleye et al., 2018; Asaleye et al., 2019; Lawal *et al*, 2019). Before the discovery of oil in the 1970s, agricultural sector has been the main source of employment generation. The aftermath of the oil shock in 1973-1974 resulted in the movement of huge capital to Nigeria. During this period, Nigerian government expenditure increases compared to previous eras due to the influence of international capital market. In addition, the country witnessed the "Dutch disease," which resulted in decline of agricultural output and export, increase the inflation, interest and unemployment rate. The low performance of macroeconomic variables during the period is not only traceable to the effect of the "Dutch disease" but the collapse of the oil price in 1982.

It is believe that there is connection between oil price shock and employment. Ahmad (2013) documented that negative relationship exist between oil price and employment. According to the scholar, an increase in oil price will cause negative impact on output, which on the other hand will affect employment negatively. Conversely, the scholars also argued that the positive impact only exist on the supply side. On the demand side, it was pointed out by Ahmad (2013) that oil price have positive relationship with employment. This argument was also supported by the study of Keane and Prasad (1990) that reported positive relationship between oil price and employment in developing economies. There is vast of empirical works in relation to oil shock and macroeconomic performance, most of these studies focused on the developed and emerging economies with less emphasis on the implications on employment. Few among the studies by Lorusso and Pieroni (2018) examined the implication of oil shock on the United Kingdom economy. The scholars reported that the effect of oil fluctuations affect the macroeconomic performance, most especially the *GDP* growth, inflation, interest rate and unemployment rate. In a similar study, Caldara et al. (2018) investigated the effect of oil price elasticities and oil price fluctuations on the economy using structural vector autoregression (SVAR). The findings of the scholars showed that supply and demand shocks explained the variation in oil prices and oil quantities. Ratti and Vespignani (2016) analysed the effect of oil prices on global macroeconomics variables using global factor-augmented error correction model. It was report by the study of Ratti and Vespigani (2016) that there is a long-run relationship between money, industrial production and prices. Also, it was further stressed by the scholars that there is a positive relationship between global oil price and global interest rate tightening while increase in oil price are argued to be caused by positive innovation in global money, price level and industrial production.

Consequently, Ju et al., (2016) investigated the impact of oil price shocks on macroeconomic performance in oil-related countries using empirical covariance, robust covariance and one-class support vector machine. The scholars' findings showed more variation in gross domestic production, consumer price index and unemployment rate within the period of 2005-2014. Likewise, it was point out that the variation in the macroeconomic indicators is more in lower oil-related country in comparison to higher-level oil-related country. Another study by Byrne et al. (2018) examined the connection between oil prices, traditional fundamentals and expectations using VAR approach. The scholars report that the oil price shock responded differently based on the business leaders, consumer and aggregate market. Herwartz and Plodt (2016) investigated the effect of oil shock on selected macroeconomic indicators using SVAR. The authors result showed that there is a strong effect of aggregate demand on price of oil, most especially the oil-specific demand shock. However, their findings showed small effect of both shocks on oil production. Ahmed et al. (2018) analysed the impact of oil price shock on macroeconomic performance in India, Pakistan, Bangladesh, Sri Lanka and Bhutan. The scholars established a long-run relationship among the variables using Johansen approach, while the scholars explored SVAR to investigate the impact of the shock. Ahmed et al. (2018) showed that oil price shock explained variation in most of the countries under examination.

Cunado et al. (2015) investigated the impact of oil shock on macroeconomic variables in top oil-consuming Asian economics using a VAR model. The scholars identified three types of shocks, namely; supply shock, demand shock and oil-specific demand shock. The findings of the scholars showed that supply shock has a limited impact when the demand is influence by the global activities in the four countries. Chen (2015) examined the connection between global oil price, macroeconomic fundamentals and chain's commodity sector co movement using VAR. It was reported by the scholar that co movement factor accounts for a significant portion of the variation in the commodity market in China. Chen et al. (2014) investigated the impact of financial and oil shocks on macroeconomic performance. It was reported that the financial shock affects the oil price and its effects is transmitted through the shock on the macroeconomic performance. Katircioglu et al. (2015) examined the relationship between oil price movement and macroeconomic aggregates in OECD countries. It was documented by the study that oil price has a negative impact on *GDP*, *CPI* and unemployment. Evgenidis (2018) analysed the impact of oil price shock on macroeconomic indicators in European Countries using a threshold VAR. The findings of the scholar showed that shock from oil have a stronger effect on output and lower effect during periods of heightened uncertainty and lowered uncertainty respectively. Gupta and Krishnamurti (2018) investigated the relationship between oil price and corporate risk-taking in 56 countries. It was reported by the scholars that oil price increases the number of firms and as well has a positive impact on the ability of risk-taking when the macroeconomic is favourable and vice-versa. Shah et al. (2018) examined the connection among oil prices, macroeconomic factor and renewable energy using VAR. The findings of Shah et al. (2018) showed that there is a significant relationship between oil price and renewable energy in United State of America and Norway, and no relationship in United Kingdom.

Evidence from literature review have shown that the implications of oil prices shock differs across regions (Gupta and Krishnamurti,

2018; Evgenidis, 2018; Shah et al., 2018; Katircioglu et al., 2015). Most of the studies use SVAR to investigate the impact of oil shock on macroeconomic performance (Caldara, Cavalleo and Lacoviello, 2018; Ahmed et al., 2018; Herwartz and Plodt, 2016). Likewise, related studies in Nigeria focused more on implication of oil shock on macroeconomic performance with less emphasis on employment. The increase in the unemployment rate in recent times have been the major concern for policy analyst in Nigeria (Arisukwu et al., 2019; Oloni et al., 2017; Fashina et al., 2018; Aremu et al., 2018; Popoola, Asaleye and Eluyela, 2018; Ogundipe et al, 2019). This study differs from the above studies by investigating the effect of oil price shock on macroeconomic variables with more attention to employment dimension using the SVAR.

The study is outline as follows: after the introductory section in Section 1, then follows by Section 2, which presents the material and methods. Section 3 presents the result while Section 4 explains the discussion of result. The study is round up in Section 5 with conclusion and recommendation.

2. MATERIALS AND METHODS

The theoretical framework of this study was based on the behavioural equilibrium exchange rate model developed by MacDonald (1997) and Clark and Macdonald (1998) and the output model. The behavioural model is given as:

$$q_t = \beta' Z_t = \tau' T_t + \varepsilon_t \tag{3.1}$$

Where Z_t is a vector of fundamental variables that influence on the real exchange rate over the medium term and long run. T_t is a vector of variables that only have transitory impact on the REER. β, τ are vectors of reduced-form coefficients. ε_t is the random disturbance term and q_t is the real effective exchange rate. This study incorporate the output model into the behavioural model and slight adjustment to achieve the objective of the study as;

$$\hat{q}_t = f(GDP, EXC, EMP, CPI, OIL, INT) \tag{3.2}$$

Where $\hat{q}_t$ is real effective exchange rate, *GDP* is gross domestic product, *EXC* is exchange rate, *EMP* is employment, *CPI* is consumer price, *OIL* is oil prices and *INT* is interest rate. The SVAR model was used in this study. The traditional VAR model show the relationship between the theory and data using limited assumptions in relation to the structure of the economy. In the case where the variables are non-stationary, then the restricted VAR model is adopted. This study uses Structural VAR; the unrestricted VAR (UVAR) approach has the limitation in interpreting the impulse responses. Using the UVAR for interpretation of impulse response function with the choice of the Choleski decomposition may lead to misinterpretation of result due to the alternative set of orthogonalized impulse response obtained from the VAR analysis. Sims (1980) attempted to overcome this limitation by using causal ordering on the VAR, but there is no consensus in literature concerning this. Hence, the orthogonalized impulse responses are not easy to interpret, in the absence of restrictions on the model that the SVAR provided. Hamilton (1994) specified the SVAR as follows;

$$\beta_0 x_t = k + \beta_1 x_{t-1} + \beta_1 x_{t-2} + \ldots + \beta_p x_{t-p} + \mu_t \tag{3.3}$$

In equation (3.3), x_t is the endogenous variable, the error terms are white noise, by this, it means that the structural disturbance are serially uncorrelated. That is; $E|\mu_t \mu_t^t| = D$, note that D is a diagonal matrix. Multiplying equation (3.3) by β_1^{-1} gives;

$$x_t = \beta_0^{-1}(k + \beta_1 x_{t-1} + \beta_2 x_{t-2} + \ldots + \beta_p x_{t-p} + \mu_t) \tag{3.4}$$

Equation 3.4 is rewritten as;

$$x_t = c + \phi_1 x_{t-1} + \phi_1 x_{t-2} + \ldots + \phi_p x_{t-p} + \varepsilon_t \tag{3.5}$$

Where $\phi_s = \beta_0^{-1}\beta_2$ Where $s = \{1,2,\ldots P\}$, $C = \beta_o^{-1}k$, $\varepsilon_t = \beta_0^{-1}\mu_t$. The variance –covariance matrix can be written as;

$$E|\varepsilon_t \varepsilon_t^t| = \beta_0^{-1} E|\mu_t \mu_t^t| (\beta_0^{-1})^t = \beta_0^{-1} D (\beta_0^{-1})^1 = \Omega \tag{3.6}$$

Therefore, to generate the structural shocks, the Choleski Decomposition of the variance-covariance of the reduced form VAR residuals $\hat{\Omega}$ was used. Hence, the Vector auto regression model of order P (or simply Var (P)) to be adopted for this study is specified below;

$$\Delta GDP = \alpha_1 + \sum_{i=1}^{k} \beta_{1i} \Delta REFR_{t-1} + \sum_{i=0}^{k} \chi_{1i} \Delta ROP_{t-1} + \sum_{i=1}^{k} \delta_{1i} \Delta RW_{t-1} + \sum_{i=1}^{k} \nu_{1i} \Delta INF_{t-1} + \sum_{i=1}^{k} \theta_{1i} \Delta INT_{t-1} + \mu_t \tag{3.7}$$

GDP represent the real Gross domestic product, *REFR* represent real effective rate, *ROP* represent real oil price, *RW* represent real wage, *INF* represent inflation and finally *INT* represent interest rate. Imposing the restriction suggested by the theoretical model, the matrix below show the relationship between the error terms of the reduced form and the structural disturbances.

$$\varepsilon_t = \beta_0^{-1} \mu_t \tag{3.8}$$

$$\begin{pmatrix} \varepsilon_t^{oil} \\ \varepsilon_t^{gdp} \\ \varepsilon_t^{r} \\ \varepsilon_t^{exr} \\ \varepsilon_t^{cpi} \\ \varepsilon_t^{emprate} \end{pmatrix} \begin{pmatrix} 1 & 0 & 0 & 0 & 0 & 0 & 0 \\ a_{21} & 1 & 0 & 0 & 0 & 0 & 0 \\ a_{31} & a_{32} & 1 & 0 & 0 & 0 & 0 \\ a_{41} & a_{42} & a_{43} & 1 & 0 & 0 & 0 \\ a_{51} & a_{52} & a_{53} & a_{54} & 1 & 0 & 0 \\ a_{61} & a_{62} & a_{63} & a_{55} & a_{65} & a_{66} & 1 \end{pmatrix} \begin{pmatrix} \mu_t^{oil} \\ \mu_t^{gdp} \\ \mu_t^{r} \\ \mu_t^{exr} \\ \mu_t^{cpi} \\ \mu_t^{emprate} \end{pmatrix} \tag{3.9}$$

In equation (3.9) μ_t^{oil} represent the oil price (supply) shock; μ_t^{gdp} represent the output (demand shock); μ_t^{r} represent the monetary shock; μ_t^{exc} represent the nominal exchange rate (external shock); μ_t^{cpi} represent the inflation shock and $\mu_t^{emprate}$ represent the employment rate shock. The matrix has 16 parameters to estimate, according to the theoretical model, this satisfied the order requirement condition (Ito and Sato, 2007; Hahn, 2003; McCarthy, 2000; Bwire et al., 2013). From equation (3.9), the identified shocks contemporaneously affect

corresponding variables; that is, affect the variable according to the ordering.

2.1. Stationary and Unit Root Test

By using the Augmented Dickey Fuller (ADF) test to examine each of the variables for the presence of stationarity or non-stationarity, this study carries out the unit root test. Based on the regression equation in the form:

$$\Delta y_t = \alpha_0 + \alpha_1 \beta y_{t-1} + T + \sum_{i=1}^{m} \beta_i \Delta Y_{t-k} + \varepsilon_t \quad (3.10)$$

Where Y_t is the time series, Δ is the first difference operator, T is the linear trend, α is a constant and ε_t is the error term. The null hypothesis of existence of unit root is β is 0. The significance of ρ will be tested against the null (ρ=0) based on t-stat on ρ obtained from the OLS estimates of the above two equations. Thus, if the null hypothesis of non-stationarity is not reject, the variables are differenced until they become stationary.

In order to test for the determination and analysis of long run relationships among economic time series variables, co-integration is used. In equation (3.7), the co-integration test of the variable implies that in the short-run they deviate from the equilibrium value, and in the long run return to this value (Johansen, 1995). Over the Engel Granger approach, the Johansen method is preferable as a test for co-integration because the Engel Granger approach is limited when analyzing a multivariate model (Enders, 2003). The study employed the Johansen Co-integration test and the starting point of the Johansen Co-integration methodology begins with a VAR order of p given by:

$$\Delta Y_t = \mu + A1 Y_{t-1} + \ldots + Ap Y_{t-p} + \beta X_t + \epsilon_t \quad (3.11)$$

Johansen proposes two different likelihood ratio tests of significance of theses economical correlations and thereby the reduced ranks of the Π matrix. These are the trace tests and the maximum Eigen value tests.

2.2. Stationarity Test in VAR Model

A VAR is stationary if all the roots of Φ |(z)|=0 lies outside the unit circle (Hamilton, 1994). Given Pth –order VAR in the first order of VAR and the matrix of lag coefficients in the order representation is referred to as the companion matrix as shown below. The companion matrix is a convenient way to express any higher-order polynomial scalar or matrix, with lag operations or not as a first order polynomial. Many proofs are more convenient in terms of the companion matrix than in the original, higher order form.

$$y_t = \mu + \Phi_1 y_{t-1} + \ldots + \Phi_p y_{t-p} + \varepsilon_t \quad (3.12)$$

In the equation y_t is the n-element vector of endogenous variables.

By transformation to a first order VAR, the transformation process is done by subtracting μ (the vector of constant), from y_t, then stacking the current and $p-1$ lags of this vector difference into an np-element vector. Finally, the first order VAR can be written as:

$$\tilde{y}_t = \tilde{\Phi} \tilde{y}_{t-1} + \tilde{\varepsilon}_t \quad (3.13)$$

From this equation the stationarity test is perform. The VAR is stationary if all the eigenvalues of the companion matrix lie inside the unit circle. VARS table will display a table of the eigenvalues.

3. PRESENTATION OF RESULTS

Table 1 presents the ADF and Phillips-Perron (PP) unit root tests of the series. The null hypothesis that the series are not stationary in level form at 5% significance level is tested in both ADF and PP. The hypothesis is rejected, however, the null hypothesis is not rejected in first difference form. It was concluded that the observed series *GDP*, *EXC*, *EMP*, *CPI*, *OIL* and *INT* were not stationary at 5% level of significance in level form. Though, the all the variable became stationary at the first differencing.

Table 2 presents the cointegration result; the null hypothesis is that there is no cointegrating vectors among the series. This null hypothesis is rejected at the level of 5% significance level by both the trace and maximum Eigenvalue. The trace statistics shows the presence of three cointegrating vectors while the maximum eigenvalue indicate just one cointegrating vector. This study follows the indication of maximum eigenvalue, since it is more preferable in small samples (Asaleye et al., 2017).

Table 3 presents the normalized cointegrating result. Due to the normalization process, the signs are reverted in the interpretation. Using employment as dependent variable, it has a negative relationship with *GDP*, *EXC* and *OIL* while it has a positive relationship with *INT* and *CPI*. All the series are statistically significant at the level of 5%. The above result implies that *GDP* contributes inversely to employment in Nigeria, as a unit increase in *GDP* results in about 1.12 units decline in employment in Nigeria. This is not connected to the structure of sectorial contributions, as the major growth driver in the economy is the service sector – contributing over 50% to the *GDP*. This is particularly a detrimental to the economy because Nigeria is labour abundant, whereas the service sector is largely capital intensive and technological driven; the industrial sector needed to accommodate the teeming labour force is in mirage. In the same manner, employment responds inversely to changes in exchange rate and oil price. A unit increase in exchange rate and oil price result in 0.013 units and 0.089 units increase in employment.

The frequent episodes of exchange rate fluctuations as witnessed in Nigerian economy posed adverse effects for domestic industries. Since sourcing inputs from abroad and discourage foreign domestic

Table 1: Unit root table

Variables	ADF test statistics	PP test statistics	Order of integration
GDP	–5.6028885	–5.602812	I (1)
EXC	–5.377034	–5.377034	I (1)
EMP	–6.431402	–6.391498	I (1)
CPI	–6.415443	–6.466610	I (1)
OIL	–4.441103	–4.371544	I (1)
INT	–6.386385	–7.930789	I (1)

Source: Author's computation using E views 10. Augmented Dickey Fuller, Phillips-Perron

investment. These effects have the potential restrict economy expansion (especially capital seeking developing economy), hence, limiting the number of employment opportunities. Likewise, the emergence of oil in commercial quantity led to the gross neglect of the agriculture and industrial sector. The former being the largest employer of labour in the country and providing livelihood and food supply for the populace. The neglect of these sectors began the unemployment doom for the economy, with all the backward and forward linkages and productive value chains capable of engaging the teeming population completely lost. This led to growing poor rural communities, and continued disparity with the urban areas, which in turn, has resulted into growing into socio-economic and environmental problems experiencing in the urban areas resulting from heavy migration.

The direct relationship between interest rate and employment contradicts the position of theory, as an inverse relationship is expected. Nevertheless, this evidence portrays the contention against lowering the commercial banks' lending rates by the CBN monetary policy committee. The committee agreed that lowering the rate is injurious to economic productivity at the present time in Nigeria; as lower retail lending rate makes cheap fund available to importers to source scare forex and in turn put pressure on exchange rate and inflation in Nigeria. Also, the foregoing suggests (as visibly seen with the indicator of *CPI*) that rising inflationary pressure, especially imported inflation (as mostly the phenomenon) hampers economic productiveness and worsen employment situation in Nigeria.

Table 4 shows the Variance Decomposition of *OIL* (Oil prices), from the Table 4, in period one, the variation oil price is explained about 100% variation in the forecast error shock of itself. In period two, the variation of the forecast error shock *OIL* is explained about 0.025% of the variation in the variable *INT* (Interest rate). In period three, the variation of the forecast error shock in *OIL* is explained about 6.83% variation in *GDP* (Gross domestic product). In period

Table 2: Co-integration test

Unrestricted co-integration rank test (Trace)				
Hypothesized No. of CE(s)	**Eigenvalue**	**Trace statistic**	**0.05 Critical value**	**Prob.****
None*	0.835325	136.1945	95.75366	0.0000
At most 1*	0.664448	82.08118	69.81889	0.0038
At most 2*	0.621353	49.32182	47.85613	0.0362
At most 3	0.291337	20.18726	29.79707	0.4102
At most 4	0.236829	9.856002	15.49471	0.2920
At most 5	0.056596	1.747812	3.841466	0.1862
Trace test indicates 3 cointegrating eqn(s) at the 0.05 level				
Unrestricted cointegration rank test (Maximum Eigenvalue)				
Hypothesized No. of CE(s)	**Eigenvalue**	**Max-Eigen statistic**	**0.05 Critical value**	**Prob.****
None*	0.835325	54.11336	40.07757	0.0007
At most 1	0.664448	32.75936	33.87687	0.0675
At most 2*	0.621353	29.13456	27.58434	0.0314
At most 3	0.291337	10.33126	21.13162	0.7130
At most 4	0.236829	8.108189	14.26460	0.3678
At most 5	0.056596	1.747812	3.841466	0.1862

Source: Authors' computation from Eviews 10. Max-eigenvalue test indicates 1 cointegrating eqn(s) at the 0.05 level

Table 3: Normalized co-integrating coefficients

Normalized cointegrating coefficients (standard error in parentheses)					
EMP	***GDP***	***INT***	***EXC***	***CPI***	***OIL***
1.000000	1.121702	-0.053909	0.012856	-0.012648	0.088594
	(0.19065)	(0.00296)	(0.00155)	(0.00182)	(0.01388)
t-stat	[5.8836]	[-18.2125]	[8.2942]	[-6.9495]	[6.3829]

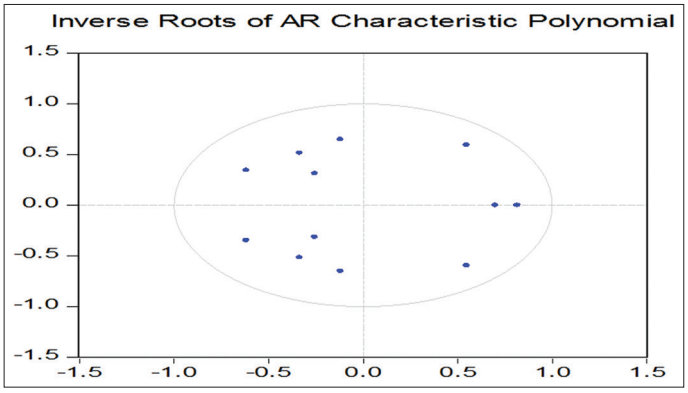
Source: Author's computation

Table 4: Variance decomposition of oil price shock

Period	***OIL***	***GDP***	***INT***	***EXC***	***CPI***	***EMP***
1	100.0000	0.000000	0.000000	0.000000	0.000000	0.000000
2	59.64332	7.451747	0.025425	0.831501	20.25477	11.79324
3	46.52256	6.830978	3.295269	1.143180	18.77686	23.43116
4	46.82098	6.704772	3.603618	1.149535	18.76742	22.95368
5	44.74063	7.417645	4.657886	1.899986	18.46284	22.82101
6	44.54637	7.417123	4.647048	1.915768	18.47402	22.99967
7	43.66543	7.312154	4.577745	2.128229	18.13456	24.18189
8	43.45904	7.417579	4.539310	2.109435	18.09710	24.37753
9	43.40341	7.442204	4.528729	2.177876	18.06911	24.37867
10	43.32879	7.438036	4.547483	2.177233	18.09802	24.41044

Source: Author's computation

Figure 1: Stability test



Source: Author's Computation

four, the forecast error shock of *OIL* explained about 30% variation in *EMP* (Employment). In addition, in period five about 22.8% variation in employment is explained by the forecast error shock of oil. The forecast error shock of oil shows 6.65%, 7.32%, 18%, 23.4% and 7.44% in period six, seven, eight, nine and ten respectively.

3.1. Inverse Roots of AR Characteristic Polynomial

Figure 1 presents the stability test of the model using the inverse roots of AR characteristic Polynomial. It can be observed that the dots fall inside the circle this means that it satisfies the stability condition.

4. DISCUSSION OF FINDINGS

This study examines the impact of oil shock on macroeconomic performance in Nigeria with focused on employment dimension. The preliminary test is carried out using augmented dickey fuller and PP approaches to determine the unit root time series property of the series. Evidence from the result shown that the series are not stationary at the level form, however, became stationary after first difference. The Johansen cointegration approach was further used to test the number of cointegrating vectors. The result of the trace and maximum indicate 3 co-integrating relationship while maximum Eigen value indicates 1 co-integrating relationship as well. Based on this outcome, the long-run equation was estimated. Evidence from the long-run relationship showed that employment has a negative relationship with aggregated output, exchange rate and oil prices. This result contradict the study by Katircioglu et al., 2015 that report a positive relationship between oil price and employment. Theoretically, the implication of exchange can be either negative or positive. According to the Marshall-Lerner condition, the implications of exchange rate depend on the sum of the long-term import demand elasticities. Also, the study is line with study of Asaleye et al. (2017) that documented a negative relationship between output and employment in Nigeria. The consequence of the result is that dependence on the oil sector has not promoted employment generation over time; there is a need to consider an alternative means to ensure sustainable growth and development. The interest rate and consumer price index has a positive relationship with employment. Variation in oil shock affects most of the macroeconomic variables. More specifically, the oil price shock shows more variation across the time horizon for employment. This finding is in line with studies by Evgenidis (2018), Herwartz and Plodt (2016), Lorusso and Pieroni (2018) that document oil price shock variation on macroeconomic performance.

5. CONCLUSION

The Nigerian economy has depended on the oil sector as the main source of revenue. Due to the heavy dependence on the oil sector, which has exposed the country to both internal and external shocks, affecting the macroeconomic performance. Likewise, in the last decade, the global economy has continued friable due to the global financial crisis in 2008, which has affected Nigeria indirectly. Reduction in oil price in the international market, coupled high demand of foreign goods and wide swings of oil prices in the international market has posed different challenges for policies to promote growth and development. In recent time, the Nigerian government has emphasised on the diversification of the economy, one of the main reasons for this call is as the result of uncertainty in the oil sector. Ensuring macroeconomic stability is imperative to improve the macroeconomic problems the country is facing for decades such as high unemployment rate, poverty rate and low standard of living. This study investigates the impact of oil shock on macroeconomic performance using SVAR and normalized equation was used to established the long-run equation.

Evidence from the long-run relationship showed that employment has a negative relationship with aggregated output, exchange rate and oil prices. The interest rate and consumer price index has a positive relationship with employment. Variation in oil shock affects most of the macroeconomic variables. More explicitly, the oil price shock shows more variation across the time horizon for employment. The consequence of the result is that dependence on the oil sector has not promoted employment generation over time; there is a need to consider an alternative means to ensure sustainable growth and development. Studies have shown that effect of oil prices affects employment. Most studies focused on the developed economies, this study investigated the impact of oil prices on macroeconomics performance with emphasis on employment. However, this study considered aggregate employment, it is suggested that future study should investigate the impact of oil price on sectoral employment.

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