



Foreign Direct Investment, Oil Export and Gross Domestic Product in Nigeria

¹Emmanuel Eche, ²Justina Yator Sorkaa, ³Sani Mathew Emmanuel & ⁴Dauda Ibrahim Danasabe

^{1,3&4}Department of Economics, Faculty of Social Sciences, Federal University Wukari

²Moses Orshio Adasu University, Makurdi, Benue State

Article DOI: 10.48028/iiprds/ssjprds.v7.i1.25

Abstract

The study examined the extent to which foreign direct investment through oil export influence economic growth in Nigeria. Although it has been difficult to ascertain why oil rich countries similar to Nigeria have benefitted from FDI in oil sector in the area of employment creation but Nigeria has not been able to efficiently benefit from adequately in this regard, it is on this premise that the work offers a practical means of addressing the phenomenon. The study covers the period 1970 -2022, the study is descriptive and quantitative in nature using statistical tools, trends, the Structural Vector Autoregression (SVAR), among other econometric models. The findings of the study showed a relationship among gross domestic Product, Foreign direct investment, oil exports, index of openness, employment and oil price. Finding showed that the lag value of gross domestic product has a positive but a statistically insignificant effect on economic growth in Nigeria. Oil exports have a positive and statistically significant impact on economic growth in Nigeria in the short-run. The analysis implies that a 1% increase in oil exports will lead to a 0.18% increase in economic growth in the economy. The paper concluded by recommended that Pragmatic mechanisms should be put in place to properly channel domestic technology, improve on local technology and co-engage foreign and local technology for on the job training among others.

Keywords: *Oil export, Gross Domestic product, Foreign direct investment, Exchange rate, Inflation, employment.*

Corresponding Author: Emmanuel Eche

Background to the Study

Foreign direct investment (FDI) is an important factor in the globalization process and in recent years has outpaced trade (Almsafir et al, 2011); It is also a vital component of the global economic system and a significant catalyst for the transfer of capital and human resources from one nation to another (OECD, 2017). Thus, foreign direct investment is a component of the economic system that promotes economic growth and infrastructural development. Developed and developing nations have in one way or the other provided incentives to encourage foreign direct investment in their economies (Melnyk, Kubatko, & Pysarenko, 2014); and many academics and policy makers report that foreign direct investment (FDI) can have significant favorable effects on the growth of a host economy along with doestic investment In addition to the funds it provides, foreign direct investment can be a source of useful technology and technical know-how that can improve links with local businesses, which can support economic growth.

Furthermore, it has been observed that since the early 1980s a number of nations have implemented regulations meant to promote foreign direct investment and loosen financial flow restrictions and as a result foreign direct investment rose to prominence as one of the key sources of cash flow and a driving force behind economic growth by improving the balance of payments and increasing cash flows, which add more money to the current account and may be used to fund regional projects that are expected to have a favorable impact on the host country's economic performance. In same vein foreign direct investment is seen as a way to improve the people's welfare through stimulating economic growth, extending employment possibilities, and increasing trade (Asiedu, 2018). According to Egolum (2011) He posts that in efforts to encourage the inflow of foreign direct investments (FDI), the Federal Government has adopted a variety of policies and measures which have allowed foreign investors to be almost treated in same vein as local investors with tax breaks and incentives. The National Investment Promotion Commission Act, 1995) was established with the purpose of promoting and facilitating investment in Nigeria with a one-stop investment center that brings together and streamlines administrative processes for new firms and investments; this center is supported by cooperation from 27 governmental and parastatal entities by promoting suitable investment climate; with the intention that incentive programs will encourage the inflow of foreign private investments and the government has demonstrated awareness of macro-policy and institutional framework particularly on macro-economic policies which are considered important in influencing investment decisions; eliminated restrictions and ceilings on FDI and permitted 100 percent foreign ownership in all sectors, with the exception of those that are illegal under local and international law (Emudainohwo, 2015).Economic potential is well recognized to be the biggest economy in the West African sub region given the country's considerable resource endowment and coastal location it is clear that it posses potential for strong growth, But yet Nigeria has realized very little because the previous efforts at planning and visioning were not sustained (Onyali & Okafor, 2014).

Background to the Study

Economic openness is widely acknowledged to increase economic growth in both rich and developing countries. The oil and gas industry in Nigeria draw the greatest FDI inflows,

according to a sector-by-sector examination of FDI inflows. \$20.83 million and \$203.9 million dollars in foreign capital were invested in the oil and gas industry during the first quarter of 2016, and the second quarter's respectively. A total of \$171.63 million and \$227.3 million were reported in the third and fourth quarters, respectively. In the first six months 2017, foreign investment inflows into Nigeria's oil and gas sector climbed to US\$291.47 million. Compared to the 21.21% inflows saw in the first half of 2016, inflows grew by 31.76%. (NBS, 2017) Beginning in 2020, Nigeria's primary trade partner for crude oil was Europe. In the fourth quarter of 2020, crude oil shipments to Europe were worth roughly N853 billion, which is about US\$2 billion. However, in the fourth quarter of 2020, exports from Nigeria exceeded N880 billion and reached over US\$2.2 billion, making Asia the top destination for Nigerian crude oil. A total, shipments of crude oil drastically declined in the second quarter of 2020. Nigeria's export value is mostly derived from crude oil exports. The Nigerian economy has been significantly impacted by the Covid-19 pandemic epidemic, Due to declining demand, crude oil prices fell precipitously, and the nation continuously reduced daily crude oil output. About 9% of Nigeria's GDP comes from the country's petroleum industry. However, due to the decreased in demand which was occasioned by the COVID-19 epidemic, Nigeria's oil output and exports decreased. The oil sector's share of this total real GDP in 2020 between October and December was roughly 5.9%, which is a decrease of about 3% from the prior quarter. Finally, the oil sector's share of the nation's GDP increased to 9.25% in the first quarter of 2021. The mineral fuels, petroleum, and distillate products industry contributed more than 80% of Nigeria's export value in 2019, totaling about \$45 billion (NBS, 2021). A downturn in FDI into Nigeria during the past years, coupled with a drop-in oil prices on the global market, has slowed Nigeria's oil exports, which has had an adverse effect on economic growth. The government's pursuit of an expansive fiscal policy through public expenditure was simplified as a resultant effect. This decline in her FDI influx will have an impact on employment possibilities, consumption levels, investment levels, and employment growth. Given that global uncertainties decreased net FDI inflows from 1996 to 2019 and that oil exports were influenced by declining oil prices, the current epidemic on FDI is particularly concerning. Majority of the time, rising economies like Nigeria and those in the Asia-Pacific region experience severe shocks brought on by GDP uncertainty (Ho and Gan, 2021). Because of the loss in FDI coming in, host nations like Nigeria may see a drop-in oil output and exports, which would cause the economy to contract. This has made it necessary to conduct a research of this kind, which look at how oil exports affect economic growth in Nigeria.

Statement of the Problem

Nigeria receives a higher proportion of FDI in the petroleum sector than in other industries, similar to other Sub-Saharan African countries. UNCTAD (2020) stated that FDI inflows to Nigeria surged by 71% from \$2 billion in 2018 to \$3.4 billion in 2019, led by resource-seeking inflows in the petroleum sector. Capital from Nigeria's petroleum sector accounted for the majority of a 17% increase in capital flows to around \$11 billion in West Africa. This demonstrates how cash flows to Nigeria's petroleum industry are distorted.

Nigeria's oil exports and FDI have a favorable correlation, according to empirical literature (see Adereni, Azeez, Elufisan and Awomailo 2019; Afolaya and Jimoh 2019; Hussain and Ahmed 2017; Makuchukwu, Salami; Fatimah, Gazi and Oke 2012). Despite an increase in oil exports fueled by FDI inflows, oil money in Nigeria has not had the desired effects, notably in the aspect of economic progress and development. There is no conclusive evidence that the increase in oil exports brought on by FDI inflows has had any direct or indirect effects on economic growth in Nigeria, unlike other oil-rich nations that have frequently exchanged their oil for fixed capital, leading to enormous capital formation and, consequently, economic growth and development. The development and expansion of Nigeria's economy are gravely threatened by this.

Although it is possible that the export of oil would have a direct impact on Nigeria's economic welfare, it is also very likely that this impact will only be indirect. With an increase in oil export profits, the government may decide to spend more or conserve more. Increased government expenditure may be directed toward developing fixed capital or human capital, both of which support economic growth and development. Furthermore, increased government savings add to general savings, which when used can boost the economy. This study aims to conduct an empirical assessment of how oil exports affect Nigeria's economic prosperity.

Research Questions

This study seeks to solve the following puzzles

- i. How has FDI through oil sector impacted Foreign Reserve in Nigeria?
- ii. What is the effect of Foreign Reserve on economic growth in Nigeria?

Objectives of the Study

The objective of this study is to examine the relationship between FDI, Oil export, Foreign Reserve and economic growth in Nigeria. The specific objectives are to:

- i. Examine how FDI through oil sector impacts on Foreign Reserve in Nigeria;
- ii. Ascertain the effect of Foreign Reserve Earnings from Oil Sector on economic growth in Nigeria

Research Hypotheses

This study is guided by the following hypotheses:

- H₀₁:** There is no significant relationship between FDI, Oil export, and Foreign Reserve in Nigeria;
- H₀₂:** Foreign Reserve Earning from oil sector has no significant impact on economic growth in Nigeria.

Significance of the Study

Oil export has unsurprisingly been extremely important to Nigeria's political economy. The transmission channels oil sales towards achieving economic growth in Nigeria have not been adequately subjected to any empirical details, despite the fact that these contributions to economic growth in Nigeria have been enormous and have each been the subject of empirical investigation separately. The relationship and nature of transmission between FDI, through

oil export to economic growth in Nigeria have not been adequately documented in empirical literature. Additionally, this research will serve as a resource for decision-makers and aspiring researchers on related subjects, which will incite profound and innovative thoughts that are practically applicable to help improve the management of oil export for the achievement of capital formation for the purpose of achieving real economic prosperity and development in Nigeria and other resource-rich countries.

Review of related Literature

Despite several empirical works on oil export, there is little conceptual literature on oil exports. The entire amount of oil exported, including both crude oil and refined oil products, is measured in barrels per day (bb/day). According to Akighir and Kpoghul (2020), oil exports include semi-finished and unfinished petroleum products, liquid fuel, lubricating oils, solid and semi-solid goods made from distillate and cracking of crude petroleum, and solid and semi-solid products made from liquid fuel. Oil and gas extraction are a key source of export income and, to a lesser extent, source of employment in many developing economies. However, the most significant benefit that a nation may get from its growth is arguably the fiscal role that the oil and gas industry play in generating tax revenue and other government funds. To ensure that the state, as the owner of the resource, receives a fair share of the economic rent generated by oil and gas development, export strategies and the tax system must be properly established (Sunley, Baunsgaard and Simard, 2002).

Gross Domestic Product

This is the total monetary value of all goods and service produce in an economy over a given normally one fiscal year. The expansion of a nation's capacity to produce goods and services from one period to the next is referred to as economic growth. It is also referring to as the gradual rise in the quantity of goods and services an economy generates. Ogunleye (2014). The World Bank (2019) sees economic growth as an increase in the production of goods and services over a specific time period. For precision, the measurement of economic growth must take the effects of inflation into account. Business profits increase as a result of economic growth. The effect is a rise in stock prices. Businesses can invest and increase employee numbers as a result. As more employment opportunities are created, income rises. The consumers have sufficient funds to purchase extra goods and services. Purchases stimulate economic growth at a higher rate. This is why good economic growth is the goal of all nations. As a result, one of the important economic indicators is economic growth.

The most reliable growth metric is the Real Gross Domestic Product (RGDP). It eliminates the detrimental effects of inflation. The World Bank uses Gross National Income (GNI) as a growth indicator rather than GDP. It includes cash sent home by Americans working overseas. It is a key source of revenue for many developing countries like Nigeria. While growth rates are important, the World Bank (2019) Group emphasizes that growth patterns that prioritize increasing opportunities for the disadvantaged and excluded, especially women and youth, can result in more strong and sustainable growth.

Comparisons of GDP by nation will understate the full magnitude of these nations' economies. The GDP does not include unpaid services. This excludes daycare, unpaid volunteer labor, and illegal black-market activities. Environmental expenditures are not included in. For instance, plastic is cheap since disposal fees are not included in. However, the impact of these costs on social wellbeing is not taken into consideration by GDP. A nation's level of living can be improved when environmental costs are considered. Only the values of a society are measured. The gross domestic product is the most reliable measure of economic growth (GDP). It takes into account the whole nation's economic output, which includes all goods and services produced for export by local businesses whether they are sold domestically or overseas. A measure of output is the GDP. The parts that are created to make a product are not included, though. Because they are made domestically, exports are taken into account. Imports are taken into consideration while adjusting economic growth.

Since 2015, the pace of economic growth has been moderate. After averaging 1.9% in 2018, growth was constant at 2% in the first six months of 2019. Internal demand is still hedged as a result of low private spending and high inflationary episodes (11% in the first six months of 2019). From the perspective of output, the services sector, particularly the telecoms, was the primary engine of development in 2019. The North-East insurgency and ongoing farmer-herdsmen disputes are to blame for the continued underperformance of the agriculture sector. Industry performance is inconsistent due to a worse power sector performance in 2019, manufacturing production is slowing down, while GDP growth is steady. It was predicted that output of food and beverages would rise in response to import restrictions. The construction sector, on the other hand, is still performing well as a result of continuing megaprojects, increased public spending in the first half of the year, and import restrictions. The growth rate is too slow to eradicate poverty among the poorest 50 percent of the population. The agriculture sector's failure harms the chances of poor rural inhabitants, while excessive food inflation has a detrimental effect on the poor in urban regions. Oil production is slowing in 2019 as a result of a poorer power sector performance, GDP growth is constant. In reaction to import limitations, an increase in food and beverage production was anticipated.

Data Presentation and Analysis of Results

Method of the Study

Data was analyzed using descriptive statistics and econometric analytical tools, the unit root test, ADF, KPSS, the SVAR and Variance decomposition tests were carried out. The IRF was also used to track the responsiveness of the regressands in the SVAR to the shocks in the other variables. The variance decomposition explained the extent of movement in the dependent variables explained by their own shock's vis-avis shocks from other factors.

Model Specification and Discussion

In tracing the indirect effect of foreign direct investment on the economy, the employment channel will be used. Foreign direct investment inflows create employment avenues in an economy and thus affect economic growth positively. Thus, the transmission which is the pass-through effect of foreign direct investment to economic growth via employment. is given as follows:

$FDI \longrightarrow EMP \longrightarrow GDP$ - - - - - 1

Where FDI is foreign direct investment inflows, EMP is employment, and GDP is economic growth (proxy by gross domestic product).

Transposing the transmission yields,

$$GDP_t = f(GDP_{t-1}, EMP_{t-1}, FDI_{t-1}, EMP_t, FDI_t) \quad - \quad - \quad (2)$$

$$EMP_t = f(GDP_{t-1}, EMP_{t-1}, FDI_{t-1}, GDP_t, FDI_t) \quad - \quad - \quad (3)$$

$$FDI_t = f(GDP_{t-1}, EMP_{t-1}, FDI_{t-1}, GDP_t, EMP_t) \quad - \quad - \quad (4)$$

Therefore, the exposition of the normalized SVAR (4.7) system of equation yields the following,

$$GDP_t = \alpha_{11}^1 GDP_{t-1} + \alpha_{12}^1 EMP_{t-1} + \alpha_{13}^1 FDI_{t-1} + \alpha_{12}^0 EMP_t + \alpha_{13}^0 FDI_t + \varepsilon_{1t} \quad - \quad - \quad (5)$$

$$EMP_t = \alpha_{21}^1 GDP_{t-1} + \alpha_{22}^1 EMP_{t-1} + \alpha_{23}^1 FDI_{t-1} + \alpha_{21}^0 EMP_t + \alpha_{22}^0 FDI_t + \varepsilon_{2t} \quad - \quad - \quad (6)$$

$$FDI_t = \alpha_{31}^1 GDP_{t-1} + \alpha_{32}^1 EMP_{t-1} + \alpha_{33}^1 FDI_{t-1} + \alpha_{31}^0 GDP_t + \alpha_{32}^0 EMP_t + \varepsilon_{3t} \quad - \quad - \quad (7)$$

Collecting the contemporaneous effects to the Left-Hand Side (LHS) turns,

$$GDP_t - \alpha_{12}^0 EMP_t - \alpha_{13}^0 FDI_t = \alpha_{11}^1 GDP_{t-1} + \alpha_{12}^1 EMP_{t-1} + \alpha_{13}^1 FDI_{t-1} + \varepsilon_{1t} \quad - \quad (8)$$

$$-\alpha_{21}^0 GDP_t + EMP_t - \alpha_{23}^0 FDI_t = \alpha_{21}^1 GDP_{t-1} + \alpha_{22}^1 EMP_{t-1} + \alpha_{23}^1 FDI_{t-1} + \varepsilon_{2t} \quad - \quad (9)$$

$$-\alpha_{31}^0 GDP_t - \alpha_{32}^0 EMP_t + FDI_t = \alpha_{31}^1 GDP_{t-1} + \alpha_{32}^1 EMP_{t-1} + \alpha_{33}^1 FDI_{t-1} + \varepsilon_{3t} \quad - \quad (10)$$

Descriptive Statistics

In order to estimate the SVAR to examine the pass-through effect of foreign direct investment to gross domestic product via oil export in Nigeria, the optimal lag selection criteria were estimated and the results are presented in the following table.

Table 1: Optimal Lag Selection Criteria

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-196.4630	NA	0.500806	7.822080	7.935717	7.865504
1	-31.90568	303.3018	0.001124	1.721791	2.176339	1.895487
2	-13.53068	31.70587*	0.000782*	1.354144*	2.149602*	1.658112*

Source: Author's estimation Using E-views 10

The result shows that both the sequential modified LR test statistic (LR), Final prediction error (FPE), Akaike information criterion (AIC), Schwarz information criterion (SC) and Hannan-Quinn information criterion (HQ) have indicated lag two (2) as the lag length for the SVAR.

Following the outcome of the optimal lag section criteria, the Johanson co-integration test was estimated and the results are shown in Table 1.

Table 2: Johanson Co-integration Test

Panel A: Unrestricted Cointegration Rank Test (Trace)				
Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None	0.246189	34.52671	29.79707	0.0251
At most 1	0.129852	10.39600	15.49471	0.2515
At most 2	0.066512	3.441383	3.841466	0.0636

Trace test indicates 1 cointegrating eqn(s) at the 0.05 level
 * denotes rejection of the hypothesis at the 0.05 level

Panel B: Unrestricted Cointegration Rank Test (Maximum Eigenvalue)				
Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None	0.246189	24.13071	21.13162	0.0291
At most 1	0.129852	6.954618	14.26460	0.4945
At most 2	0.066512	3.441383	3.841466	0.0636

Max-eigenvalue test indicates 1 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

Source: Author's Estimation Using E-views 10

The results from Table 2 shows that in panel A, the trace statistics has indicated 1 co-integrating equation; also, from pane B the Max-Eigen statistic indicates 1 co-integrating equation. Hence, the null hypothesis of no long-run relationship among FDI, OILX and GDP was rejected, implying that there is the existence of long-run relationship among the variables. Following the existence of long-run relationship among the series, the SVAR contemporaneous effect was estimated to trace the pass-through effect of FDI to GDP via EXR channel and the result is presented in the Table 2.

Table 3: SVAR Contemporaneous Effect

	GDP	OILX	FDI
GDP	1	0	0
OILX	0.1055*	1	0
FDI	1.8468*	0.0062*	1

*Denote 5% significance level

Source: Author's Estimation using E-views 10

The contemporaneous matrix indicates that there is a positive contemporaneous and statistically significant relationship between foreign direct investment in oil and gas sector and oil exports in Nigeria. This means that a 1% increases FDI in the oil and gas sector will contemporaneously increase oil export in Nigeria by 0.01%. Also, the matrix shows that there is a positive and statistically significant relationship between oil export and economic growth in Nigeria. This implies that a 1% contemporaneous increase in oil export in Nigeria will lead to 0.11% increase in economic growth in Nigeria. Foreign direct investment in oil and gas industry has a positive and statistically significant relationship with GDP in Nigeria. This implies that, a 1% contemporaneous increase in FDI inflow in the oil and gas industry will contemporaneously increase GDP in the economy by 1.85%. From this result, it shows that the oil export channel in Nigeria has indicated the potentials of transmitting the spillover effect of FDI in the oil and gas sector to the Nigeria economic growth; this suggest a strong pass-through effect from FDI in oil and gas sector to economic growth via the oil export. In order to perform analyses of the impulse response and forecast variance error decomposition, various diagnostic tests were performed and the results are presented in the following tables.

Table 4: Diagnostic Tests

Type of Test	Test statistic	Probability
VAR Residual Serial Correlation LM Tests	Rao F-stat (1.501998)	0.1583
VAR Residual Normality Tests	Joint Jarque-Bera (2624.555)	0.0000
VAR Residual Heteroskedasticity Tests	Joint Chi-Sq (1.69423)	0.0821

Source: Author's Estimation Using E-views 10

Table 4 presents the diagnostic tests of VAR residuals, that is, Serial Correlation LM Tests, Normality Tests and Heteroskedasticity Tests and their probability values. From the table, the result indicates that the probability values of Serial Correlation LM Tests and Heteroskedasticity Tests are greater than 0.05 cut-off threshold which leads to the acceptance of the null hypotheses that there is no serial correlation and the residuals are Homoscedastic. However, for normality test the probability of the Jarque-Bera is less than 0.05% cut-off threshold. This leads to the rejection of the null hypothesis that the residuals are multivariate normal. This suggests that the residuals are not normally distributed; but the violation of this assumption does not have serious consequences on the validity of the results.

Table 5: Forecast Variance Error Decomposition of GDP

Period	S.E.	GDP	OILX	FDI
1	0.113385	100.0000	0.000000	0.000000
2	0.174887	70.27220	0.012396	29.71541
3	0.203692	69.93207	0.102417	29.96551
4	0.227014	64.94238	0.201023	34.85660
5	0.241713	62.49424	0.384815	37.12095
6	0.253459	59.53753	0.568974	39.89350
7	0.261951	57.18116	0.766611	42.05223
8	0.268794	54.95337	0.944389	44.10224
9	0.274162	53.06332	1.100827	45.83585
10	0.278616	51.42837	1.225428	47.34620

Source: Author's Estimation Using E-views 10

The variance decomposition result shows that own shocks of GDP are dominant from the first period to tenth period. It however declined from 100% in the first period to 51.43% in the tenth period, OILX accounted for 0.01% in the second period and the effect increased gradually to 1.23% in the tenth period. FDI accounted for 29.72% in the innovations in GDP in the country and the effect increased gradually to 47.35% in the tenth period. This suggests that both OILX and FDI are strong predictors of GDI in Nigeria. Also, the variance decomposition for OILX was estimated and the result is presented in Table 5 as follows.

Table 6: Forecast Variance Error Decomposition of OILX

Period	S.E.	GDP	OILX	FDI
1	0.532880	0.050392	99.94961	0.000000
2	0.729183	0.046204	99.92471	0.029089
3	0.855977	0.050973	99.89645	0.052582
4	0.947899	0.137624	99.59792	0.264457
5	1.018834	0.277302	99.01372	0.708979
6	1.075747	0.428650	98.20801	1.363340
7	1.122609	0.560167	97.24836	2.191477
8	1.161876	0.655030	96.19528	3.149695
9	1.195181	0.708653	95.09411	4.197236
10	1.223668	0.725713	93.97826	5.296027

Source: Author's Estimation Using E-views 10

The variance decomposition result shows that own shocks of OILX are dominant from the first period to tenth period. It however declined from 99.95% in the first period to 93.98% in the tenth period, GDP accounted for 0.05% in the first period and the effect increased gradually to 0.73% in the tenth period. FDI accounted for 0.03% in the innovations in OILX in the country and the effect increased gradually to 5.29% in the tenth period. This suggests that both GDP and FDI are strong predictors of OILX in Nigeria. Also, the variance decomposition for OILX was estimated and the result is presented in Table 5 as follows.

Table 6: Forecast Variance Error Decomposition of FDI

Period	S.E.	GDP	OILX	FDI
1	0.435332	23.15556	0.005754	76.83869
2	0.474595	32.54641	0.133752	67.31984
3	0.552985	38.61284	0.118317	61.26885
4	0.596483	44.32533	0.147948	55.52673
5	0.643492	48.60022	0.296372	51.10340
6	0.680925	52.34509	0.514624	47.14028
7	0.716038	55.39754	0.827059	43.77540
8	0.746746	57.97214	1.203394	40.82447
9	0.774671	60.09072	1.640122	38.26916
10	0.799663	61.82338	2.118884	36.05774

Source: Author's Estimation Using E-views 10

The variance decomposition result shows that own shocks of FDI are dominant from the first period to the fifth period. It however declined from 76.84% in the first period to 51.1% in the fifth period, after which GDP became a dominant shock in the sixth period and the effect increased significantly to 61.82% in the tenth period. OILX accounted for 0.01% in the innovations in FDI in the country and the effect increased gradually to 2.12% in the tenth period. This suggests that GDP and OILX are strong predictors of FDI in Nigeria.

Discussion of Findings

The study found long-run relationship among oil exports, foreign direct investment, and index of openness, exchange rate, oil prices, OPEC quota, and foreign demand. Specifically, the study found that FDI oil and gas had positive and statistically significant impact on oil export both in the short- and long-run. This finding is in line with Tolkin and Atlay (2019) who found that FDI had positive impact on oil exports. This means that increase in the inflow of foreign investment in the oil and gas will exert positive impact on the volume of oil exports in the country. This could be through huge capital investment, innovations and efficient production techniques in the oil and gas sector.

Also, the study found that oil export had positive and statistically significant impact on economic growth in both the short and long-run in Nigeria. This finding is in tandem with Ugwu et al. (2019); Sultan and Haque (2018) who found positive impact of oil exports on economic growth. This suggests that the export of oil provides revenue for the funding of the economy in diverse ways such as critical infrastructures, welfare services and direct investments in the economy which has a multifaceted impact on the aggregate economy.

Furthermore, the study found that foreign direct investment in the oil and gas sector had positive and statistically significant impact on economic growth in both the short and long-run in Nigeria. This finding collaborate Idris and Usman (2022); Udi et al. (2021); Obinne et al. (2020); Alabi (2019); Okey and Amba (2018); and Akinyemi et al. (2018) who found that foreign direct investment positively impact on economic growth. This suggests that the inflow

of foreign direct investment in the oil and gas sector affect oil production, exports and revenue which has multiplier effect on the Nigeria economy. Furthermore, the study found that there is a positive pass-through effect from foreign direct investment in oil and gas industry to economic growth via oil exports in Nigeria. The finding is in line with the findings of Istaiteyeh and Ismail (2014) and Belloumi (2014) who found a positive nexus among FDI, oil exports and economic growth. This suggests that increase in the inflows of foreign direct investment in oil and gas will increase oil production and consequently, the exports of oil in the international market which translates to increase in oil revenue that finance investment in critical infrastructure, investment in services and direct domestic investment that propel economic growth in the country.

Summary

The study investigated the nexus among foreign direct investment, oil export and economic growth in Nigeria from 1970 to 2021. Specifically, the study examined the pass-through effects of foreign direct investment to economic growth via oil exports. The study utilized the Autoregressive Distributive Lag (ARDL) model and the Structural Vector Autoregressive (SVAR) model in the investigation. Findings of the study revealed that, first, foreign direct investment in oil and gas industry has positive and statistically significant relationship with oil exports both in the short and long-run in Nigeria. Second, the study found that oil exports have positive and statistically significant impact on economic growth in Nigeria. Third, findings indicated that, there is positive and statistically significant relationship between foreign direct investment in oil and gas sector and economic growth of the Nigeria both in the short and long-run.

Furthermore, the study investigated the indirect channels through which foreign direct investment in oil and gas transmits spillover effects on economic growth in Nigeria. The channels investigated were weak; the employment, foreign reserves and exchange rate channels. For the employment and foreign reserve channels, the study established that, there is a weak positive transmission effect of foreign direct investment in oil and gas to economic growth in Nigeria. This suggests that, these channels have exhibited positive potentiality of the spillover effects to economic growth. For the exchange rate, the study found that, the channel has exhibited negative and weak transmission effect of foreign direct investment in oil and gas to economic growth. This suggests that foreign direct investment in oil and gas has the potential of reducing exchange rate in the country with its positive attendant consequences on economic growth in Nigeria. Finally, the study established a strong positive pass-through effect of foreign direct investment in oil and gas to economic growth through oil exports in Nigeria.

Conclusion

On the basis of the findings of this study, it is concluded that, directly, foreign direct investment in oil and gas exerts strong positive impact on oil exports. Also, oil exports impact positively on economic growth in Nigeria. Again, foreign direct investment in oil and gas exerts strong positive impact on economic growth in Nigeria. Indirectly, foreign direct investment in oil and gas through employment, foreign reserves and exchange rate channels

transmits weak spillover effects to economic growth; but through oil exports, there is a strong pass-through effect to economic growth in Nigeria.

Recommendations

On the basis of the findings and conclusion the study recommends the followings:

1. The Government through the Ministry of Industry, trade and investment in collaboration with the ministry of petroleum and gas should make concerted efforts in attracting and retaining foreign direct investment in the oil and gas sector. This can be done by improving on the investment climate in the country through control of rising insecurity and economic policies that can ensure economic stability.
2. Pragmatic mechanisms should be put in place by the Ministry of Defense and Interior to forestall oil theft and bunkering. Also, efforts should be made to forestall pipeline leakages. These efforts will go a long way in increasing the volume of oil exports that will guarantee sustained economic growth.
3. To improve on the positive potentiality of the foreign reserves channel as a spillover of foreign direct investment in the oil and gas industry to the economy, the Central Bank of Nigeria and the Ministry of Finance should develop effective mechanisms that will track the receipts of foreign exchange from multination's and ensure the remittance of same to the Federal government.

References

- Adekojo, T. A., Ebiefie, V. & Akinyemi, K. A. (2015). Capital formation and economic growth in Nigeria (1981-2013), *International Journal of Academic Research in Business and Social Sciences*, 7(3)
- Adeleke, K. M., Olowe S. O. & Fasesin, O. O. (2014). Impact of foreign direct investment on Nigeria economic growth, *International Journal of Academic Research in Business and Social Sciences*, 4(8)
- Adeolu, B. A. (2007). FDI and economic growth: Evidence from Nigeria. *African Economic Research Consortiums (AERC) Research Paper* 165. 9966-778-09
- Aderemi, T. A. (2018), Nexus between foreign direct investment, Non-Oil exports and economic growth in Nigeria, *Journal of Economics and Finance (IOSR-JEF)* 9(6) 28-34
- Adigwe, P. K., Ezeagba, C. E. & Francis, N. P. (2014) Effect of foreign direct investment on Nigerian economic growth, *European Journal of Research and Reflection in Management Sciences* 3(5).
- Akanni, O. P. (2007). Oil wealth and economic growth in oil exporting African countries, *African Economic Research Consortium*
- Akighir, D. T. (2014). *Capital flight and economic growth in Nigeria: A simulation analysis* (Unpublished Doctoral Thesis), Benue State University, Makurdi - Nigeria.

- Benhabib, J. & Spiegel, M. (1994). The role of human capital in economic development: Evidence from aggregate cross-country data, *Journal of Monetary Economics*, 34,143
- CBN (2018). *Bullion publication* 32 (2).
- Haider, M. A., Muhammad, A., Khan, M. A. & Abdulahi, E. (2016). Determinants of foreign portfolio investment and its effects on China, *International Journal of Economics and Finance*, 8(12).
- Hamza, A. (2017). *Impact of Foreign Direct Investment fluctuation on emerging economies of Asia Pacific and Nigeria*, University press, Ibadan.
- Ho, G. (2021). A new synthesis on the impact of FDI on economic growth 1986-2020. *Journal of International Economics* 58, 18-37.
- Ibe, S. O. & Osuagwu, N. C. (2016). Impact of capital formation on the economic development of Nigeria. In Fifth International Conference on global business, *Economics, Finance and Social Sciences*, April 1-3. Chennai-India
- Idris, A. & Usman, I. (2022). Empirical Analysis of FDI and International Businesses In an emerging Economy. 1986-2021, *Interdisciplinary Journal of Contemporary Research in Business*. 4(11). 770-789.
- Igwedinma, A. & Evans, O. (2016). *Non-oil export, foreign direct investment and infrastructural development in Nigeria*. 3rd International Conference on African Development Issues 2449-075X17
- Isiaka, A., & Olusogo, O. (2016) Impacts of oil foreign direct investment on environment and poverty level in Niger delta oil producing region: A structural equation modeling approach, *International Journal of Energy Economics and Policy* 4(4)
- Kawai, V. (2017). An Analysis of the impact of non-oil exports and economic growth in Nigeria from 1980 – 2016, *International Journal of Innovative Research in Social Sciences & Strategic Management Techniques* (4)2
- Kpoghul, E. T. (2017). *Trade openness, Foreign Direct Investment and Economic performance in Nigeria*, Thesis Paper submitted to the Post graduate School Benue State University Makurdi.
- Kpoghul, O. A. (2021). *Trade openness, foreign direct investment and economic performance in Nigeria* *Journal of Economics*, BSU Makurdi.
- NBS (2021). *Annual Financial Report 2020*

- Nwaozuzu, C. (2017). *Dwindling oil revenues: Economic implications for governance, business and development*.
- Nyang`oro, O. (2017). *Capital inflows and economic growth in Sub-Saharan African Countries, Working Paper Series No. 285*.
- Oba, U. O. & Onuoha, B. C. (2013). The determinants of foreign direct investments (FDIs) and the Nigerian economy, *American International Journal of Contemporary Research*, 3(11), 165-172.
- Obinne, O. & Okanya, O. (2020). Foreign private investment and economic growth in Nigeria: A two stage least square approach, *Journal of Economics and Sustainable Development* 12(9):172-184.
- Odularu, G. O. (2008). Crude Oil and the Nigerian economic performance. *Oil and Gas Business*. 9(3), 27-38
- Okpe I. J. (2010). Foreign direct investment and human resource development in Nigeria (1977-2006) an unpublished Ph.D Thesis presented to Post graduate school, Bayero University, Kano,.
- Udi, B. & Sarcodie, S. (2021). The empirical dynamics of Oil export and economic growth in Nigeria. *Nigerian Journal of Social Science*, 5(11), 5-14
- Ugwo, U. & Ochuba, O. (2019). Trade openness and Economic growth: Panel evidence, *Applied Economics letters*, 22(2), 167-171
- UNCTAD (2021). World Investment Report 2020
- Uwubanmwun, A. E., & Ogiemudia, O. A. (2016). Foreign direct investment and economic growth: Evidence from Nigeria, *International Journal of Business and Social Science* 7(3)
- Vaitsis, U. (1974). 'Investment in Human Capital, *African Economic Review*.
- Walta, N. (2018). The short-run and long-run Relationship Between Foreign Direct Investment and Gross Domestic Product of Laos, 1985-2014, *International Journal of Innovative Financial Research* 3(1), 17-24
- World Bank (2021) World development indicator, 2020
- Yanovsky, M. (1965) *Anatomy of Social Accounting Systems*, London; Chapman & Hall.