Foreign Direct Investment and Economic Growth in Nigeria

M. O. Ndugbu[1*], K. C. Otiwu[1] and L. N. Uzowuru[2]

[1]*Banking and Finance Department, Imo State University, Owerri, Imo State, Nigeria.*
[2]*Banking and Finance Department, Federal Polytechnic, Nekede, Imo State, Nigeria.*

Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

This study examined the relationship between foreign direct investment and economic growth in Nigeria using secondary data sourced from the Central Bank of Nigeria (CBN) statistical bulletin between the periods of 1986 to 2017. The study employed Vector Error Correction Model (VECM) and Pairwise Granger Causality test to ascertain the direction of causality between variable employed. Findings revealed that of the six exogenous variables used as an indicator of foreign direct investment, only the non-oil related foreign direct investment, trade openness and market capitalization were able to pass test of hypothesis, which suggest that of the six employed independent variables, three established the fact that foreign direct investment is a vital stimuli in promoting economic performance in Nigeria with more emphasis on the non-oil related foreign direct investment. The study thus concluded that non-oil related foreign direct investment is more helpful to Nigeria's economy compared to oil related foreign direct investment inflows. Consequently, it is recommended that both Nigeria's private and public sectors should intensify efforts to attract further foreign direct investment inflows into the non-oil related sectors of the economy, while relatively de-emphasizing attraction of inflows into the oil related sector in the interest of the country.

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Email: micpetwills@yahoo.com;

1. INTRODUCTION

From the inception of political independence in most of West African countries, inflows of foreign investment and multinational firms' operations have been partly useful in evaluating the economic performance of member countries. In this perspective, studies including Akinlo [1] as well as Izuchukwu and Huiping [2] have argued that inflows of foreign investments and multinational firms' operations have on the average, significantly promoted advancement of Nigeria's economy over the years. Foreign Direct Investment (FDI) has emerged as one of the most important source of external resource flows to developing countries over the years and has become an integral part in the formation of capital in these countries [3]. In achieving a sustainable level of development and technological transformation in any nation foreign direct investment plays a potent role [4].

Obaseki [5] in Akinmulegun (2012) had opined that worldwide economic change involving flows of trade and investment between and among countries has been one major phenomenon in international economics in the last few decades; with economic theories of comparative advantage suggesting that free trade leads to a more efficient allocation of resources with all economies involved in the trade benefiting. Foreign Direct Investment (FDI) is a direct investment by a corporation in a commercial venture in another country. FDI refer to investment by Multinational Corporation's in foreign countries in order to control assets and manage production activities in those countries. It plays an extraordinary and growing role in global business by providing a firm with new markets and marketing channels for their products. For a host country or the foreign firm which receives the investment, it provides a source of new technologies, capital, process, products, organizational technologies and modern management practices. All of these are presumed to contribute to economic growth and development in an economy. FDI is important not just for the developing countries but also for developed nations.

Nigeria also cautiously embarked on a reform path such as Structural Adjustments Programme (SAP) but this was characterized by frequent interruptions by political shocks and policy reversals. During this SAP, Nigerian Government considered the need for improvement in Foreign Direct Investments (FDI) and subsequently pursued economic reforms such as reduction of cost of loanable funds, encouragement of savings and availability of funds to the real sectors. The reforms were expected to encourage efficiency and productivity of labour and reduce unemployment. [4,6].

Several conflicting opinions prevail as to the resulting benefits and effects of FDI inflows, investments and operational activities on several economies especially, the developing economies. Often, these opinions range from social, political, economic and financial to cultural dimensions with valuable ramifications. In this line of argument, Ajayi [7] remarks that FDI inflows have potentials to address positively, the problems of savings gap, deficiency in skills acquisition and technological transfers in nations including Nigeria, Ahmad Hayat, Luqman and Ullah (2014) acknowledges the capacity of FDI operations to substantially improve the balance of payment positions of host economies in the Least Developed Countries (LDCs) as well as the exchange rates of their currencies, Dike [8] views FDI operations and investments as key motivators of corruption, especially in the less developed economies. Therefore, in analyzing the link between the causal factors of Foreign Direct investment and economic growth, such measurements as inflation rate, interest rate, trade openness, GDP, foreign portfolio investment, exchange rate, and market capitalization rate have been employed.

The essence of foreign direct investment inflows into the Least Developed Countries (LDCs) is to help resuscitate the economic growth process through the window of technological transfer and industrialization [9]. As such, most LDCs expect an automatic trend of development at the inception of foreign investment inflows into their nation. To this end, the expected level of growth in the LDCs following the various inflows of foreign direct investment is far from being achieved as most LDCs are suffering from poor technological usage and low level of industrialization resulting from poor technical know-how and importation of outdated technological transfer from these foreign investors, Hanson [10], Lipsey [11] and Greenwood [12]. This thus pose a question that to what extent does the inflows of foreign

investment in Nigerian resuscitate economic growth? This however constitutes one of the worries of this study [4].

Theories and empirical evidence make it difficult to conclude that LDCs merely and automatically respond to foreign direct investment inflows, or that foreign direct investment is an inconsequential addendum to the process of economic growth [13]. Shortage or inefficiency in capital inflow has been recorded as a major impediment that militates against development of most developing countries. In the argument of transfer of technology, Charles contend that the major challenges facing the less developed countries is lack of sufficient inflows of foreign direct investment to establish an institution where new technology could be developed hence, the LDCs see importation of technology through foreign direct investment as a better chance to resuscitate economic growth.

Empirically, the argument as to the direction of causality between foreign direct investment and economic growth in Nigeria is far from being settled. For instance, Nnamdi and Eniekezimene [14], Borensztein, De Gregorio and Lee [15], Caves [16], Smarzynska [17] and Findlay [18] assert that foreign direct investment inflows is capable of promoting local enterprises by exposing them to international competition. This exposure makes them more efficient and effective thus, boosting their operating capacity in the long run. To them, FDI inflows fuel job creation, increase productive capacity and facilitate advanced technological spill-over's to the local enterprises. In the Nigerian context however, Uwubanmwen and Ogiemudia [19], Onyali and Okafor [20], Awe [21], Yaqub, Adam and Ayodele [22] all assert that foreign direct investment exhibited a negative and insignificant relationship on economic growth in Nigeria. To this end however, it could be observed that most of the studies reviewed above largely fail to address the causal variations between foreign direct investment and economic growth in Nigeria. Hence, the need therefore arises to evaluate the extent to which foreign direct investment do influence or promote economic growth in Nigeria. The purpose of this study is to investigate the relationship between Foreign Investment and economic growth in Nigeria.

Specifically, the study sets to;

i. Investigate the extent to which oil related foreign direct investment contributes to gross domestic product in Nigeria.

ii. Examine the influence of none oil related foreign direct investment on gross domestic product in Nigeria.

This study tested the following hypotheses in its null form;

H$_{o1}$: Oil related foreign direct investment does not significantly contribute to gross domestic product in Nigeria.

H$_{o2}$: There is no statistically significant relationship between none oil related foreign direct investment and gross domestic product in Nigeria.

2. REVIEW OF RELATED LITERATURE

This section is a review of related literature, which provides an understanding and important theoretical views and work done by other scholars to examine the relationship between foreign direct investment and economic growth in Nigeria. Thus, this section is categorized into conceptual review, theoretical review, and the empirical literature review.

2.1 Conceptual Review

2.1.1 Foreign direct investment (FDI)

Foreign Direct Investment is an investment that involves the injection of foreign funds into an enterprise that operates in a different country of origin from the investor. FDI has further been explained as the long term investment reflecting a lasting interest and control by a foreign direct investor or parent enterprise of an enterprise entity resident in an economy other than that of the foreign investor (International Monetary Fund, 2008). As FDI flows grew in volume and complexity in the 1990s and early 2000s, three new players appeared on the global stage: They are: sovereign wealth funds (SWFs), which were government - controlled entities with the authority to take significant equity stakes in foreign firms; private equity (PE) firms, which resorted increasingly to cross-border acquisitions, and emerging – market multinational enterprises (EMNEs), which ratcheted up their overseas acquisitions and investments.

Foreign direct investment (FDI) is seen as a major and integral part of an open and international economic system and a major catalyst to development OECD [23]. It refers to

investment made to acquire a lasting management interest (usually at least 10 % of voting stock) and acquiring at least 10% of equity share in the enterprise operating in a country other than the home country of the investor OECD [23]. It can take the form of either "Greenfield" investment (also called "mortar and brick" investment) or merger and acquisition (M & A). Depending on whether the investment involves mainly newly created assets or just a transfer from local to foreign firms [4,24].

2.1.2 Types of foreign direct investment

Horizontal FDI is undertaken when the company wants to expand horizontally to produce the same or comparable goods in the host country as in the home country. Product differentiation is a central aspect for horizontal FDI to be successful. There are two main motives for a company to engage in horizontal FDI.

Vertical FDI is undertaken when a company seeks to exploit raw materials, or wants to be closer to the consumer by acquiring distribution outlets. The idea is to make the production process more cost-efficient by reallocating some stages to low-cost locations. By establishing their own network in the host country, it is easier for the multinational companies to market their products. Mergers and Acquisition (M & As) are cheaper than green field investments and makes it easier for the investor to get quick market access. But M & As can be harmful to the host country because they may only imply a transfer of ownership that is followed by layoffs and closing of advantageous activities.

2.1.3 Foreign direct investment and economic growth

The considerable increase in Foreign Direct Investment, especially in developing countries as of 1990s has led to emergence of some ideas that focus on the growth dynamics that are measured by Gross Domestic Product. As a result, the complex relationship between Foreign Direct Investment and economic growth resulted in a large number of empirical studies in developed and developing countries. When the theoretical aspects related to the relationship between Foreign Direct Investment and growth is examined, it can be seen that there are different ideas regarding such causality.

2.1.4 Trend of foreign direct investment in Nigeria

In the immediate post-independence period up to 1972, FDI in Nigeria was dominated by the non-

oil sector. Agriculture was the main stay of the economy during this period. According to Anyanwu [25] investment in the oil sector during 1970 was 25% of total FDI while investment in non-oil sector stood at 73% in the same period. In 1971, the share of the oil sector declined to 9.8% and that of the non-oil sector to 90.2%. In 1972, there was a reversal. The oil sector share rose to 66% while non-oil sector declined to 34%. This marked the beginning of the structural shift and sectoral in balance of the Nigeria economy towards and in favour of the oil sector and by 1973, the respective shares stood at 62% and 38% for oil and non –oil sectors.

Nigeria, being a mixed economy has gradually over the years shifted more from the public sector to the private sector and eventually to an open economy in which export and import play a great role. This also suggests the rate of FDI inflow to the economy. According to Salami and Oyewale, [26], Nigeria is highly dependent on external trade and as such, measures should be applied to ensure maximum benefit for the country in the context of globalization. FDI forms a small percentage of the nation's gross domestic product (GDP) making 2.4% in 1970, -.81% in 1980, 6.24 in 1989 and3.93 in 2002. On the whole, it formed about 2.1% of the GDP over the period1970-2002. Prior to the early 70s, foreign investment played a major role in the Nigerian economy such that between 1963 and 1972, an average of 65% of total capital was in foreign hands [4].

In summary, the policies embarked on by the Nigerian government to attract foreign investors as a result of the introduction of the SAP could be categorized into five: the establishment of the Industrial Development Coordinating Committee (IDCC), investment incentive strategy, non-oil export stimulation and expansion and expansion, the privatization and commercialization programme, and the shift in macroeconomic management in favour of industrialization, deregulation and marked-based arrangements. Below is a brief illustration about foreign direct investment inflows in Nigeria between the periods covered in this study (1986 to 2017).

Within the conferment of this study, foreign direct investment inflows into Nigeria rose from 735.8 million naira to 13877.4 million naira between 1986 and 1989. From 1990, the inflows drop and further rise to 29660.3 million in 1993. The speed of increment set in 1994 when the foreign inflows rose to 22.2 billion naira. A drastic down fall set

in 1997 till 2004 when another face of increment set in. The problem of insecurity (presence of militants, kidnapping, political instability etc.) in the country in year 2007 accounted for the great drop in the inflow of FDI in the economy, most of the investors left Nigeria within this period for safety. The value rose further again in 2013 to ₦369020.53 million. The increase in FDI inflow into the economy is as a result of naira devaluation, unfavourable micro economic environment (general price level, high exchange rate). This attracts more foreign investors as they are able to generate more returns on their investments and acquire more assets. The state of volatility in the inflows of foreign direct investment is much between 2005 to 2013 and in 2014, foreign direct investment experience a down fall till date. The down fall could be as a result of economic recession faced by the nation in recent times [4].

2.2 Theoretical Framework

2.2.1 Foreign direct investment theories

This study anchors on selected class of theories on foreign direct investment flows as they relate to national economic growth. To this extent, it becomes imperative to review generally, those selected theories as they partly, contribute towards a provision of appreciable linkage between foreign direct investment flows and economic growth of nations.

2.2.2 Classical theory of foreign direct investments

According to UNCTAD [27] several efforts have been made to determine the place of foreign direct investment in international trade theory. Foreign direct investment has gained significance more than international trade in the web of globalisation all over the world. The first conception of foreign direct investments can be seen as the extension or development of classical theories of international trade deeply rooted in economics. Smith [28] established and introduced the theory that gave clear details of how trade flows between nations.

He further explained the theory of absolute difference in cost. The theory states that trade becomes evident between countries where one of the countries has outright or total advantage in production of a commodity and unprivileged to produce another commodity. This theory didn't consider countries that are not privileged to have outright advantages on any line of production of a commodity. The one sided nature of theory on supply alone does not consider situation where a nation may decide to import commodities it produces at a cheap cost due to demand pressures Nwinne [29].
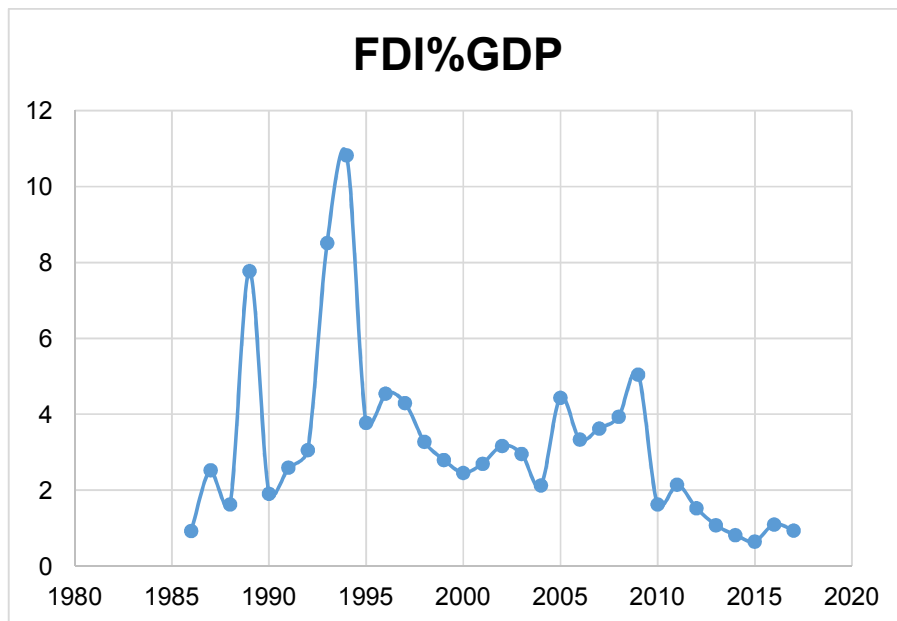

Fig. 1. Illustration of FDI in Nigeria (1986-2017)
Source: Authors computation

Ricardo improves on Smith's model by formulating a concept based on the relative advantage to fit into a more universal framework. Ricardo stated that a country with a comparative benefit in the cost of production of a commodity will focus on exporting that commodity since it has relative benefit over the other countries but will import commodity of lesser production cost advantage. The theory was based on using one factor of production-labour and thus it is the difference in production technology that explains the different cost that provides reward for sales. Morgan and Katsikeas,1997 condemned Smith's Model based on immobility of labour in all sector and concluded that the classical theories is not helpful in providing explanations for global capital transfer.

Theory supports Ricardo's model by stating "that the concept of international movements of capital for international trade is significant, due to differences in resource endowments among nations". He "forecasts that patterns of production and trade are subject to resource endowments of a trading nation". The theory further stated that countries will export products that they are richly endowed and inexpensive in production and imports commodities that are scarce. Over the years, the growth of foreign direct investment has experienced steady progressive increase in the success of international enterprise; invariably it has impacted significantly to the structure of international trade.

2.2.3 Stephen, H. Hymer's microeconomic theory of foreign direct investment

Hymer's theory states that the main intentions for internationalization of companies are: variables connected to the company's ownership of specific assets and dimension; and variables caused by existence of market inefficiencies.

Hymer stated that "foreign direct investment is beneficial when firm-specific advantages across nations allow overcoming additional costs of doing business abroad". Moreover he opined that it is economical for international companies with specific advantage to operate successfully outside their own country.

2.2.4 Aliber's foreign direct investment theory based on strength of currency

According to Aliber [30] He presented his "theory of foreign investment in terms of relative strength of the different country's currencies". This theory is anchored on the basis of differences in the strength of the currencies in the investor's country and the host country. He suggested that countries with devalued currencies have a higher capability to attract foreign direct investment, because it creates the opportunity for investors to take lead of market capitalization differences when compared to countries with stronger currencies.

2.3 Empirical Review

The controversy as to the extent to which foreign direct investment inflows promote or hinder growth in the LDCs remains inconclusive. The empirical review conception of foreign investments in this study will be structured under two different headings. The first view covers the **Crowding-In School** which asserts that inflows of foreign direct investments constitute a basic financial catalyst for economic development of the LDCs. The second view covers the **Crowding-Out School** which is of the opinion that inflows of foreign direct investment in the less developed countries (LDCs) are parasitic to economic growth of the LDCs.

2.3.1 Crowding-in school

In an attempt to analyse the inter relationships between inflows of oil and non-oil foreign investments and Nigeria's economy, Nnamdi and Eniekezimene [14] examine the relationships between the inflows of oil and non-oil related foreign investments as well as the extent to which these classified sectoral foreign investment inflows have proved significant in promoting Nigeria's economy. For analytical purposes, the study employed Error Correction model and Causality tests. The results of the Error Correction estimation show that non-oil direct investments contribute more significantly to Nigeria's economy compared with the oil related foreign investments.

Monogbe and Nduka [31] examined the behavioural effect of the multinational operation and its performance on the Nigeria economy between the periods 1986 to 2014. Study employ granger causality test, multiple regression and unit root test to ascertain the level of stationality. Findings reveals that the operation of the foreigner inform of FDI has significantly stimulate economic growth in the long run in Nigeria.

Monogbe and Achugbu [9] examine the dynamic effect of foreign capital inflow on the development of the Nigerian economy using time series data between the periods 1891 to 2014.

Study employed error correction model, Cointegration test and granger causality test among others. Finding reveals that foreign capital inflow has statistically and significantly promote economic development in the Nigerian context although the practical effect of its contribution is not been felt to a great extent. Study then conclude that financial discipline and moral tolerance such be embraced in order to achieve the motive of foreign inflows and hence promote economic development in Nigeria in the long run.

In another related study, Emmanuel [32] examined the effect of foreign direct investment on economic growth in Nigeria between the periods 1981 to 2015. The study used secondary data derived from the Central Bank of Nigeria statistical bulletin and publications of the National Bureau of Statistics. The study employed multiple regression technique and Gretl 1.9.8 econometric software was used for the analysis. The results showed that foreign direct investment has a positive and significant effect on gross domestic product. It was also found that exchange rate has a positive but not significant effect on gross domestic product. Thus, the study concluded that foreign direct investment has a positive effect on economic growth in Nigeria.

Pulstova [33] studied the effects of foreign direct investment and firm export on economic growth in Uzbekistan. The study covered the period 1990 – 2014 and descriptive method was adopted. He found that an increase in FDI may cause firms to increase their export of products. Hence, the study recommends that the border of the country should be widely open to accommodate more inflows of foreign investment. Emmanuel and IKenna [34] examined the econometric analysis of Foreign Direct Investment and Nigeria economic performance using multiple regression analytical technique discovered that a statistically significant relationship exist between GDP, Exchange rate and FDI; Gross Domestic Product (GDP) and Exchange rate are discovered as the main determinants of FDI. Okonkwo and Egburike [35] examined the effect of foreign direct investment on the economic growth of Nigeria for the period 1990 to 2012. They utilize the Ordinary least squares technique. Their finding shows a positive relationship between economic growth and export.

2.3.2 Crowding-out school

Conversely, the view that foreign investment inflows crowd out local enterprises as advanced by Hanson [36], Lipsey [11], Greenwood [12] contend that foreign multinationals only operate to maximize their pecuniary interests as distinct from the interests of their host economies. This view argues that increased inflows of foreign investment tend to threaten the existence and survival of local industries due to high level of competition. The induced competitions are varied and range from technological to branding, as well as pricing. These competitive strategies tend to increase unemployment rate through the introduction of capital intensive production strategy in a locally labour intensive environment. The studies of Onyali and Okafor [20] provide evidence to show that inflows of foreign investments into Nigeria are not adequate to meet the required level of funding for accelerated development of the economy. The study suggests that local investors should be additionally encouraged in order to compliment the investments from foreign sources. The study employed the auto regressive distributive lag where time series data where source from the central bank of Nigeria statistical bulletin between the period 1980 to 2012. Awe [21] examined the impact of foreign direct investment on economic growth in Nigeria during the period 1976 – 2006. The study reveals a negative relationship between economic growth and Foreign Direct Investment (FDI) as a result of insufficient FDI flow into the Nigerian economy. The study employed the vector auto regression to estimate parameters, where time series data where source from the central bank of Nigeria statistical bulletin between the period 1970 to 2011.

Arawomo and Apanisile [3] investigated the key determinants of FDI in the Nigerian telecommunication sector. The study made use of data from 1986 to 2014. Annual data on infrastructure, government expenditure, trade openness, market size, foreign exchange rate, interest rate and inflation were sourced from the Central Bank of Nigeria statistical bulletin. Data were analyzed using Autoregressive Distributed Lag (ARDL). The result showed that the key determinants of FDI in the sector are market size and trade openness as well as inflation and real interest rate. Hence, more credence should be given to across the border transaction to encourage more trade interaction between the neighbouring countries. Okereke and Ebulison [37] examined the determinants of foreign direct Investment inflow to Nigeria between the periods 1980 to 2014; they employed the OLS technique, as well as co-integration and error correction

mechanism. Interestingly, they found a significant relationship between FDI and GDP, likewise exchange rate and degree of openness but no significant relationship was found between FDI and interest rate in Nigeria. Thus they recommended that government should constantly articulate and implement policies that would increase productive base, moderate devaluation and liberalization.

2.3.3 Gap in literature

Several studies have tried to examine the correlation between foreign direct investment and economic growth in Nigeria. One major factor that is currently a source of debate is the direction of causality between foreign direct investment inflows and economic growth as some existing literature revealed that the foreign investors are parasitic to the existing economic benefit of the host countries while other studies report that the host countries are beneficiary of foreign direct investment inflows.

For instance, Nnamdi and Eniekezimene [14], Nnamdi, Ogunbiyi and Monogbe [38], Monogbe and Achugbu [31], Emmanuel [32], Okonkwo, Egburike and Udoh [35], Borensztein, De Gregorio and Lee [15], Caves [16], Blomstrom [39], Smarzynska [40] and Findlay (1978) and so on assert that foreign direct investment inflows is capable of promoting economic growth of the LDCs through the windows of technological transfer and innovation.

Further very few of the reviewed literature emphasise on a disaggregate analysis of looking at the various component of foreign direct investment inflows. That is, the oil related and the non-oil related foreign direct investment. As such, this study seek to critically examine the oil related and non-oil related foreign direct investment inflows to identify which of them is significant in promoting economic growth in Nigeria using more recent data and more sophisticated econometric tools.

3. MATERIALS AND METHODS

For the purpose of this study, the ex-post facto research design was utilized. Econometrics is a special type of economic research analysis in which economic theory expressed in mathematical terms is joint with empirical measurement of economic phenomena. Generally, time series data will be utilized. The data reflects the macroeconomic variables related to foreign direct investment which

includes inflation rate, exchange rate, oil related foreign direct investment inflows, non-oil related foreign direct investment inflows, market capitalization rate, trade openness while gross domestic product will be use as a measure for economic growth between the periods 1986-2017. The data were sourced and extracted from existing documents and materials. These include the Central Bank of Nigeria (CBN) statistical Bulletin 2017, CBN Annual Report and Statement of Account, international monetary fund statistical report (IMF) 2017 issues.

3.1 Model Specification

Following the classical linear regression model assumption and in consonant with the empirical study of Nnamdi, and Eniekezimene [14] we formulated our model in a functional form first;

$$GDP_t = f\ (OFDI_t,\ NOFDI_t,\ FPI_t,\ MCAP_t,\ INTR_t,\ EXCR_t,\ TROP_t) \quad (1)$$

The above functional model is transformed into a mathematical form by introducing constant and slope thus;

$$GDP_t = \alpha_o + \alpha_1 OFDI_t + \alpha_2 NOFDI_t + \alpha_3 FPI_t + \alpha_4 MCAP_t + \alpha_5 INTR_t + \alpha_6 EXCR_t + \alpha_7 TROP_t \quad (2)$$

We further transform the above mathematical model into econometrics model by introducing error term thus;

$$GDP_t = \alpha_o + \alpha_1 OFDI_t + \alpha_2 NOFDI_t + \alpha_3 MCAP_t + \alpha_4 INTR_t + \alpha_5 EXCR_t + \alpha_6 TROP_t + \gamma_t \quad (3)$$

Where

GDP = Gross domestic product

FDI = Foreign direct investment

OFDI = Oil related foreign direct investment

NOFDI = Non-oil related foreign direct investment

MCAP = Market capitalization

EXCR = Exchange rage

INTE = Interest rate

TROP = Trade openness

α_o = Constant of the Model

$\alpha_1 - \alpha_7$ = Coefficient of the explanatory variables

4. DATA ANALYSIS AND INTERPRETATION

4.1 Stationarity Test Results

The results of the Stationarity test executed for this study are presented in Table 1.

The results shown in Table 1 above confirm that the absolute values of all the study variables' ADF statistics are respectively higher than their corresponding Mackinnon's critical values at 5% respectively. Thus, they are all stationary at first difference and consequently integrated of order I,

that is i(1). This confirms the data set suitable for adoption in subsequent analyses. As such, we proceed to test for long run relationship among the study variables using the johansen co-integration test.

The results of Johansen's Co-integration test shown in Table 2 provide evidence of prevalence of five (5 no.) co-integrating equations. Thus, it implies that a significant long run relationship prevails among this study's set of variables. This therefore justifies the condition for vector error correction model accordingly. As such, we proceed to ECM accordingly.

Table 1. Results of Stationarity Test

Variables	ADF Stat	Mackinnon 5%critical value	P-value	Order	Remark
D(GDP)	-9.49958	-2.96397	0.0000	I(1)	Stationary
D(OFDI)	-9.162961	-2.96397	0.0001	I(1)	stationary
D(NOFDI)	-9.17132	-2.96397	0.0000	I(1)	Stationary
D(MCAP)	-5.33585	-2.96397	0.0001	1(1)	stationary
D(TROP)	-4.24930	-2.99187	0.0031	1(1)	stationary
D(EXR)	-3.14053	-2.96397	0.0341	1(1)	stationary
D(INTR)	-5.00114	-2.98622	0.0005	1(1)	stationary

Source: Extracts from E-views

Table 2. Presentation of Johansen's Co-integration Test Results

Date: 04/06/19   Time: 22:38

Sample (adjusted): 1988 2017
Included observations: 30 after adjustments
Trend assumption: Linear deterministic trend
Series: GDP OFDI NOFDI TROP MCAP EXR INTR
Lags interval (in first differences): 1 to 1
Unrestricted Cointegration Rank Test (Trace)

Hypothesized		Trace	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.749818	161.7320	125.6154	0.0001
At most 1 *	0.679558	120.1650	95.75366	0.0004
At most 2 *	0.615606	86.02338	69.81889	0.0015
At most 3 *	0.527131	57.34079	47.85613	0.0050
At most 4 *	0.507769	34.87269	29.79707	0.0119
At most 5	0.237916	13.60846	15.49471	0.0943
At most 6 *	0.166329	5.457488	3.841466	0.0195

 Trace test indicates 5 cointegratingeqn(s) at the 0.05 level
 * denotes rejection of the hypothesis at the 0.05 level
 **MacKinnon-Haug-Michelis (1999) p-values

Source: Extraction from E-view 10

Table 3. Presentation of error correction model

Dependent Variable: D(GDP)
Method: Least Squares (Gauss-Newton / Marquardt steps)
Date: 04/07/19   Time: 15:32
Sample (adjusted): 1988 2017
Included observations: 30 after adjustments
D(GDP) = C(1)*(GDP(-1) + 0.000967314569895*OFDI(-1) -
0.00419009306482*NOFDI(-1) - 0.00130444567285*MCAP(-1) -
0.00397393662541*TROP(-1) - 7.0099305268*INTR(-1) +
0.109463287146*EXR(-1) + 105.917505147) + C(2)*D(GDP(-1)) +
C(3)*D(OFDI(-1)) + C(4)*D(NOFDI(-1)) + C(5)*D(MCAP(-1)) + C(6)
*D(TROP(-1)) + C(7)*D(INTR(-1)) + C(8)*D(EXR(-1)) + ECM(-1)

	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	0.289426	0.218696	1.323416	0.1999
C(2)	0.236246	0.136483	1.730956	0.0981
C(3)	-0.000108	0.000161	-0.672486	0.5086
C(4)	**0.000731**	**0.000770**	**0.948792**	**0.0535**
C(5)	**0.000201**	**0.001249**	**0.160637**	**0.0039**
C(6)	**0.004477**	**0.025102**	**0.178337**	**0.0102**
C(7)	-1.168374	0.772497	-1.512464	0.1453
C(8)	0.190128	0.152947	1.243103	0.2275
ECM(-1)	**-2.352508**	**3.018222**	**-0.779435**	**0.0444**
R-squared	0.587394	Mean dependent var		-0.372528
Adjusted R-squared	0.575926	S.D. dependent var		13.91446
S.E. of regression	13.80322	Akaike info criterion		8.331006
Sum squared resid	4001.107	Schwarz criterion		8.751365
Log likelihood	-115.9651	Hannan-Quinn criter.		8.465483
F-statistic	1.058664	Durbin-Watson stat		2.406372
Prob(F-statistic)	0.006882			

Source: Extraction from E-views 10

The above Error Correction model shows that the Error Correction model displays the right negative sign. It's coefficient of -0.352508 shows that the disequilibrium in the short run is been adjustment in the long run to the tune of 35 percent. All predictor variables jointly account for roughly 57 percent of variation in the criterion variable while the Durbin Watson statistic exhibited a high coefficient of 2.4063 thus suggesting absent of autocorrelation thereby suggesting that the report from this study is reliable and can be used for decision making. In light of the above, it can be seen that the probability value of Non-oil related foreign direct investment (NOFDI), Market capitalization (MCAP) and trade openness (TROP) appear to be significant in promoting economic growth in Nigeria. This can be evidenced from their significant P-value alongside a positive coefficient of 0.0535, 0.0039, 0.0102 and 0.000731, 0.000201 and 0.00447 respectively. The report from this study further provide a supporting evidence in alignment with the study of Nnamdi, and Eniekezimene, [14] whose study suggest that non-oil related foreign direct investment significantly promote economic growth in Nigeria compared to the oil related investment.

The results of Pair-Wise Granger Causality test shown in Table 4 above indicate absence of any bi-directional causal relationship among any of the paired variables. The result of the granger causality test provides an evidence to compliment the result of the ECM. From the result, we found the existence of three uni-directional relationship between (i) Non-oil related foreign direct investment and gross domestic product, (ii) trade openness and gross domestic product and (iii) market capitalization rate and gross domestic product with causality flowing from NOFDI, TROP and MCAP to GDP. This implies that non-oil related foreign direct investment, trade openness and standard market capitalization significantly contribute to economic growth process in Nigeria as reported within the context of this study. The causality between gross domestic product and the rest of the indices of FDI (INTR, OFDI, EXR), all manifest Schumpeterian independence hypothesis. In this

instance, they appear to be operating independent of gross domestic product in Nigeria.

4.2 Hypotheses Testing

The hypothesis is tested using the result of the vector error correction model estimate and the causality test where the P-value of each of the series will be considered accordingly.

4.2.1 Hypothesis one

H_{o1}: Oil related foreign direct investment does not significantly contribute to gross domestic product in Nigeria.

Following the result of the VECM, oil related foreign direct investment exhibited a negative coefficient of -0.000108 alongside an insignificant

P-value of 0.5086 thus suggesting the existence of negative and insignificant relationship between the series. Further, the result of the causality test provides an evidence of Schumpeterian independence hypothesis where OFDIdoes not appear to cause GDP in Nigeria. Based on our findings, we therefore accept the null hypothesis and thus reject the alternative to conclude that there is no significant relationship between oil related foreign direct investment and gross domestic product in Nigeria.

4.2.2 Hypothesis two

H_{o2}: There is no statistically significant relationship between none oil related foreign direct investment and gross domestic product in Nigeria.

Table 4. Pairwise granger causality output

VEC Granger Causality/Block Exogeneity Wald Tests			
Date: 04/07/19 Time: 15:50			
Sample: 1986 2017			
Included observations: 30			
Dependent variable: D(GDP)			
Excluded	Chi-sq	df	Prob.
D(OFDI)	0.452238	1	0.5013
D(NOFDI)	0.900206	1	0.3427
D(MCAP)	0.025804	1	0.8724
D(TROP)	0.031804	1	0.8585
D(INTR)	2.287549	1	0.1304
D(EXR)	1.545304	1	0.2138
All	4.387514	6	0.6244
Dependent variable: D(OFDI)			
Excluded	Chi-sq	df	Prob.
D(GDP)	0.690596	1	0.4060
Dependent variable: D(NOFDI)			
Excluded	Chi-sq	df	Prob.
D(GDP)	2.253414	1	0.0212
Dependent variable: D(MCAP)			
Excluded	Chi-sq	df	Prob.
D(GDP)	0.035881	1	0.0052
Dependent variable: D(TROP)			
Excluded	Chi-sq	df	Prob.
D(GDP)	1.708842	1	0.0006
Dependent variable: D(INTR)			
Excluded	Chi-sq	df	Prob.
D(GDP)	0.001505	1	0.9691
Dependent variable: D(EXR)			
Excluded	Chi-sq	df	Prob.
D(GDP)	0.212058	1	0.6452

Source: Extracts from E-Views

Still in line with the result of the VECM, we found that Non-oil related foreign direct investment exhibited a positive coefficient of 0.00073 alongside a significant P-value of 0.0535 thus suggesting the existence of positive and significant long run relationship between the series. The result of the causality test also compliment this findings as we found causality flowing NOFDI to GDP thus suggesting that gross domestic product in Nigeria is benefiting from the inflows of non-oil related foreign direct investment. Based on this identification, we reject the null hypothesis and thus conclude that there is no statistically significant relationship between none oil related foreign direct investment and gross domestic product in Nigeria.

4.3 Discussion of Findings

4.3.1 Oil related foreign direct investment and gross domestic product in Nigeria

The oil related foreign direct investment comprise of order kind of inflow sure as Gasoline, Vaseline, Bitumen, Refines oil and so on that flows into the Nigerian economy. it is expected that more inflows of all this items will promote economic growth in a positive manner as specified in our apriori expectation. However, result shows that oil related foreign investment does not significantly promote economic growth in Nigeria. This is evidenced from its insignificant P-value of 0.5086 and a negative coefficient of -0.000108. Further, the result of the causality test further provide a compelling evidence of absence of causal relationship between oil related foreign direct investment and gross domestic product in Nigeria. The result thus gives an impression that more inflows of oil related foreign direct investment is capable of downsizing gross domestic product in Nigeria to the tune of 0.000108 unit all things been equal. The result from this study is in consonant with the empirical findings of Nnamdi, and Eniekezimene, [14] whose study shows that Nigerian economy benefit less from oil related foreign direct investment.

4.3.2 Non-oil related foreign direct investment and gross domestic product in Nigeria

The Non-oil related foreign direct investment comprises of order kind of inflow sure as technologies, telecommunications, engineering/ construction, consumables, Furniture's and so on that flows into the Nigerian economy. it is expected that more inflows of these items will promote economic growth in a positive manner as specified in our apriori expectation. Result provides supportive evidence as non-oil related foreign direct investment exhibited a significant P-value of 0.0535 alongside a positive coefficient of 0.000731. The result of the causality test result also provide a synergising evidence of non-oil related foreign direct investment promoting gross domestic product as we found causality flowing from NOFDI to GDP. This therefore gives an impression that further increase in the inflow of non-oil related foreign direct investment is capable of promoting gross domestic product in Nigeria to the tune of 0.000731 unit all things being equal. The result of this findings further support the report of Babalola et al., [41], Nnamdi, and Eniekezimene, [14] whose study present that Nigerian gross domestic product is more responsive to non-oil related foreign direct investment compare to oil related.

5. CONCLUSIONS AND RECOMMENDA-TIONS

5.1 Conclusion

This study examined the causal effect of foreign direct investment on economic growth in Nigeria between the periods 1986 to 2017. Based on the result of the vector error correction model result and pairwise granger causality test which was used in testing our hypothesis, this study reports that of the six exogenous variables used as an indicator of foreign direct investment, only the non-oil related foreign direct investment, trade openness and market capitalization was able to pass test of hypothesis, which suggest that of the six employed independent variables, three established the fact that foreign direct investment is a vital stimuli in promoting economic performance in Nigeria with more emphasis on the non-oil related FDI. Meanwhileinterest rate, exchange rate and oil related foreign direct investment does not appear to significantly stimulate economic growth in Nigeria.

5.2 Recommendations

The following recommendations are made based on the findings of this study;

- Since report shows that non-oil related foreign direct investment spur economic growth in Nigeria, this thus implies that for sustainable economic growth to be achieved in Nigeria, policies to attract more

inflows of non-oil related foreign direct investment, opening of the border to standardize across the border transaction and development of the financial market should be embraced, while relatively de-emphasizing attraction of inflows into the oil related sector in the interest of the country.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Akinlo AE. "Foreign Direct Investment and growth in Nigeria: An empirical investigation". J. Policy Modelling. 2004;26:627-39. Available:joi.sagepub.com/content/2/2/105.refs.
2. Izuchukwu O, Huiping H. An empirical analysis on the contribution of foreign direct investment on Nigeria economy. Proceedings of the 8th International Conference on Innovation and Management; 2010. Retrieved 10/11/15
3. Arawomo O, Apanisile FJ. Determinants of foreign Direct Investment in the Nigerian telecommunication sector. Journal of Modern Economy. 2018;9.
4. Adelegan JO. Foreign direct investment and economic growth in Nigeria: A seemingly unrelated model. African Review of Money Finance and Banking. 2000;5-25.
5. Obaseki JP. Policies and strategies for dealing with the problems of Globalization. Globalization and Nigeria's Economic Development op cit. 2007;65-87.
6. Shuaib IM, Dania EN. Capital formation: Impact on the economic development of Nigeria 1960-2013. European Journal of Business Economics and Accountancy. 2015;3(3): 23-40.
7. Ajayi SI. Foreign direct investment and economic development in Africa; paper presented to the ADB / AERC international conference on accelerating Africa's development five years into the twenty-five century, Tunis, Tunisia; 2006.
8. Dike O. Determinants of foreign direct investment in developing countries: A comparative analysis. Journal of Applied Economics Research; 2008.
9. Monogbe TG. Leveraging Nigeria's economic development: Foreign capital inflow or financial system? Account and Financial Management Journal. Everant. Org / AFMJ. 2016;1(4):183-196. DOI:10.1234.67/afmj.1015 AFMJ 2016, 1,
10. Hanson G. Should countries promote foreign direct investment? G-24 discussion papers 9, United Nations Conference on Trade and Development; 2001.
11. Lipsey R. Home and host country effects of FDI. Lidingö, Sweden; 2002
12. Greenwood R. Theorizing change: The role of professional association in the transformation of institutionalized fields. The Academy of Management Journal. 2002;45(1):58-88.
13. Levine R. Finance, inequality and the poor: A journal of economy and society-wiley online library; 1997.
14. Nnamdi IS, Eniekezimene DE. Foreign direct investment inflows and economic performance in a developing economy: Nigerian evidence. European Journal of Business and Management. 2018;10(6):104-113.
15. Borensztein E, De Gregorio J, Lee JW. How does foreign direct investment affect economic growth? Journal of International Economics. Cambridge University Press. 1998;45:115–135.
16. Caves RE. Multinational enterprise and economic analysis, 2nd ed. Cambridge; 1996.
17. Smarzynska B. Spillovers from foreign direct investment through backward linkages: Does technology gap matter? Mimeo, World Bank; 2002.
18. Findlay R. Relative backwardness, direct foreign investment, and the transfer of technology: A simple dynamic model. The quarterly journal of economics. 1978;92(1).
19. Uwubanmwen AE, Ogiemudia OA. Foreign direct investment and economic growth: Evidence from Nigeria. International Journal of Business and Social Sciences. 2016;7(3).
20. Onyali CI, Okafor T. Foreign direct investment and the Nigerian economy: Vision 2020 mission. International Journal of Business and Finance. 2014;2:8-16.
21. Awe OO. On pairwise granger causality modelling and econometric analysis of selected economic indicators: Interstate journals; 2013. Available:net/YEAR/2012/articles/1208002.pdf.

22. Yaqub JO, Adam SL, Ayodele J. Foreign direct investment and economic growth in Nigeria: An empirical analysis. American Academic and Scholarly Research Journal. 2013;5(1):74- 82.

23. OECD. Organization for economic cooperation and development report; 2002.

24. Khan GS, Mitra P. A causal Linkage between FDI inflows with select macroeconomic variables in India- an economic analysis. IOSR Journal of Economics and Finance. 2014;5(5):2321-5933.

25. Nyawu JC. An Econometric investigation of determinants of foreign direct investment in Nigeria In investment in the growth process: proceedings of the Nigerian Economic society conference, Ibadan, Nigeria. 1998;219-40.

26. Salami AO, Oyewale IO. Impact of Foreign direct investment on employment generating in Nigeria. International Journal of Economic Development Research and Investment. 2013;4(1):64-75.

27. UNCTAD. Nigeria ranks 19th in the world in attracting FDI; 2005.
Retrieved:http//www.UNCTADexport.by.htm.

28. Smith A. An Inquiry into the nature and causes of the wealth of nations, Strahan W, Cadell T. London; 1776.

29. Nwinee, B.F. International finance. Fredsbary Printers and Publishers, Bori, Ogoni, Rivers State, Nigeria; 1999

30. Aliber RZ. A theory of direct foreign investment, in C. P;1970.

31. Monogbe TG, Nduka JA. Foreign direct investment and economic development process in Nigeria. International Journal of Development Economics. 2016;3(2):23-34.

32. Emmanuel IJ. Effect of foreign direct investment on economic growth in Nigeria. European Business and Management. 2016;2(2):40-46.

33. Pulstova M. Effects of foreign direct investment and firm export in economic growth: Evidence from Uzbekistan. European Journal of Business and Management. 2016;8(3).

34. Emmanuel SA, Ikenna DN. Econometric analysis of foreign direct investment and Nigeria's economic performance. Journal of Economics and Sustainable Development; 2016.
ISSN (222-1700).

35. Okonkwo RI, Egbunike FC. Foreign direct investment and economic growth in Nigeria, developing country studies. 2015;5(9).

36. Hanson G. Should countries promote foreign direct investment? G-24 discussion papers 9. United Nations Conference on Trade and Development; 2000.

37. Okereke EJ, Ebulison NO. Determinants of foreign direct investment inflows in Nigeria: An Empirical Analysis. 2016;1970-2011.
Available:https://ssrn.com/abstract=2756975

38. Nnamdi, Ogunbiyi, Monogbe. How far does sectoral contributions to Nigerian's economic performance influence foreign investment inflows? Cika Journal of Business and Management. 2018; 5(10).

39. Blomstrom M, Lipsey R, Zegan M. What explains developing country growth? NBER working paper no. 4132. National Bureau for Economic Research, Cambridge, Massachusetts; 1994.

40. Smarzynska BK. Does foreign direct investment increase the productivity of domestic firms: Policy research working paper series 2923; 2002.

41. Babalola SJ, Dogon-Daji SDH, Saka JO. Exports, foreign direct investment and economic growth: An empirical application for Nigeria. International Journal of Economics and Finance. 2012;4(4):95-105.