An Impact Assessment of Foreign Direct Investment and Export Volume on Economic Growth in Nigeria

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Abstract: In the economic literature, the impact of foreign direct investment on economic growth remains a debatable phenomenon among policy makers. Undeniably, foreign direct investment have been regarded as an engine of economic growth in an increasingly globalised world economy, but it contributions to growth may strongly depend on the circumstances surrounding the recipient country including its development status. In a developing nation like the Nigerian economy, foreign direct investment is expected to play a vital role in propelling aggregate national output towards sustainable growth. In lieu of that, this study examines the impact of foreign direct investment and total export on economic growth in Nigeria using annual time series data covering a sample period of 1981 to 2018. The study employs the ordinary least square technique, cointegration analysis and the Granger causality technique to measure the impact and the long-run relationship among the variables. Findings established that foreign direct investment and export have a positive and significant effect on economic growth in Nigeria. While cointegration shows the presence of long-run relationship among the variables, the Granger causality shows no causal relations between foreign direct investment and real GDP but only unidirectional causality running from foreign direct investment to export. There is ample need for policy makers to develop a specific growth-oriented policies that would create reform measures in the domestic market, greater trade openness and creation of a stable macroeconomic environment that would provide more opportunities for sustainable growth.

Keywords: Foreign direct investment, Export, Economic growth, Ordinary least square, Cointegration, Granger causality.

I. Introduction

The global changes and structural transformation within the international economy in terms of market orientation have unlocked a different pattern in the treatment of capital accumulation and private capital flows. The issues of capital flows are regarded among the most accessible means for economic growth whereby investment is considered as the engine of growth. The global changes in business approach have recognised the relevance and significance of Foreign Direct Investment (FDI) as a potential alternative to encourage output growth. Successive government in Nigeria supported by the strong industrial forces have identified this machinery of international transaction and investment as a significant instrument for attaining rapid and sustainable growth through utilising certain measures like giving credit consideration provision, basic infrastructure and right environment for production and investment, quality tax concession and favourable lending rates.

Over the last decades, the overall macroeconomic performance of the Nigerian economy can be described as being low. The average GDP growth rate realised from 2000 to 2013 is less than 4%. This rate of growth in per capital items is insufficient to reduce significant level of poverty which remains the primary goal of developing policies in Nigeria. Furthermore, Ajayi (2012) argued that the savings rate of Nigeria is low compared to most developing countries and far lower than the required investment that can induce growth rates which is capable of alleviating poverty. In line with the recent global scenario and current realities in Nigeria, it is very clear that foreign direct investment is highly needed to bridge the gap of savings and investment that existed in the country. Prior to the 1970s, FDI was not seen as an instrument of economic development; the perception of FDI as parasitic and hindering the development of domestic industries for export promotion had engendered hospitality to multinational corporations and their direct investments in many countries.

Furthermore, FDI is an engine of growth as it provides the much needed capital for investment, increased competition in the host country industries and aids local firms to become more productive by adopting more efficient technologies or by investing in human and or physical capital. Also, foreign direct investment contributes to growth in a substantial manner because it is more stable than other forms of capital. While the FDI-growth led hypothesis is still ambiguous, most macroeconomic studies however support the notion of a positive role of FDI within particular economic conditions. There are three main channels through which FDI
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can bring about economic growth. The first is through the release it affords from the binding constraints of domestic savings. In this case, foreign direct investment contributes to savings in the process of capital accumulation. Second, FDI is the main source through which technology spill-overs lead to an increase in factor productivity and efficiency in the utilisation of resources which leads to growth. Third, FDI leads to export as a result of increased capacity and competitiveness in domestic production. This linkage mostly depends on the absorptive capacity which include the level of human capital development, type of trade regimes and degree of openness (Idris & Bakar, 2017).

Due to trade liberalisation policies and openness of the economy, the flow of FDI into the Nigeria economy has not ceased. Remarkably, there are debatable opinions on whether the FDI is indeed beneficial and how significant is the benefit to economic growth. Critical proponents have argued that in the cost of benefit analysis context, the less accruing to the host countries as a result of FDI outweighs the guaranteed benefit (Lo, Hong & Li, 2016). Particularly in sub-Saharan Africa, developing economies essentially depend on the foreign investors to finance certain developmental investments that are largely capital intensive. Multinational corporations conduct most of these foreign investment and many developing countries equally borrow funds from international financial markets through bonds selling, but later attract higher cost of borrowing. Interestingly, foreign investors may decide not to purchase the bonds if there is an anticipated fear that a government may not be able to repay its loans. In reality, multinational corporations are the representation of the global corporation around countries as they see the state as the only unit of analysis in international relation. These aforementioned arguments have necessitated the need to further examine whether the often acclaimed benefits of FDI are significant or not.

In Nigeria, current public sector policies are all aligned towards attracting foreign investors to boost the economy with the view to attaining sustainable growth and development. Increased in foreign direct investment in recent times has attracted lots of attention in the academic world. A significant portion of which are conducted among developed and highly industrialised countries of Europe, with little attention to the developing countries of sub-Saharan Africa. In addition to the limited literature on the subject matter, the use of non-recent data is more prominent among the previous studies. In view of the previous discussions, this study examines the impact of FDI and export on economic growth in Nigeria using annual data spanning the sample period of 1981 to 2018.

Consequent upon the aforementioned, the rest of the paper is arranged as follows: section 2 deals with the conceptual clarification of FDI as it enhances economic growth; section 3 presents the empirical review of related literature on the FDI across both developed and developing economies; section 4 contains the data and methodology selected for this study; section 5 deals with the results and discussion; and finally section 6 presents the conclusion and recommendations.

II. Concept of Foreign Direct Investment

Foreign Direct Investment (FDI) is a type of investment that involves the injection of foreign funds in to an enterprise that operates in a different country of origin from the investor. In the views of Organisation for Economic Cooperation and Development (OECD) (2009), direct investment reflects the aim of obtaining a lasting interest by a resident entity of one economy (direct investor) in an enterprise that is resident in another economy (the direct investment enterprise). The lasting interestimplies the existence of a long-term relationship between the direct investor and the direct investment enterprise and a significant degree of influence on the management of the latter. Direct investment involves both the initial transaction establishing the relationship between the investor and the enterprise and all subsequent capital transactions between and among affiliated enterprises. It should be observed that capital transactions which do not give rise to any settlement, for instance, an interchange of shares among affiliated companies, must also be recorded in the balance of payments and in the international investment position.

Concerning the terms direct investor and direct investment enterprise, the International Monetary Fund (IMF) and the OECD define a direct investor as an individual, an incorporated or unincorporated private or public enterprise, a government, a group of related individuals, or a group of related incorporated and/or unincorporated enterprises which have a direct investment enterprise, operating in a country other than the country of residence of the direct investor. On the other hand, a direct investment enterprise is an incorporated or unincorporated enterprise in which a foreign investor owns 10% or more of the ordinary shares or voting power of an incorporated enterprise or the equivalent of an unincorporated enterprise. Direct investment enterprises may be subsidiaries, associates or branches. A subsidiary is an incorporated enterprise in which the foreign investor controls directly or indirectly (through another subsidiary) more than 50% of the shareholders’ voting power. An associate is an enterprise where the direct investor and its subsidiaries control between 10% and 50% of the voting shares. A branch is a wholly or jointly owned unincorporated enterprise.

However, it should be noted that the choice between setting up either a subsidiary/associate or a branch in a foreign country is dependent, among other factors, upon the existing regulations in the host country (and
sometimes in its own country, too). National regulations are often more restrictive for subsidiaries than for branches but this is not always the case. The classification of direct investment is based on the direction of investment both for assets or liabilities, investment instrument used (shares, loans, etc.), and finally the sector breakdown.

Furthermore, FDI is an investment made to acquire a lasting management interest in a business enterprise operating in a country other than that of the investor (World Bank, 1996). According to Thirwall (1994), FDI refers to investment by multinational corporations (MNCs) with headquarters in developed countries. This investment involves not only a transfer of funds but also a whole package of physical, techniques of production, managerial and marketing expertise, products, advertising and business practices for the maximisation of global profits. More so, FDI encompasses not only merger and acquisition and new investment, but also reinvested earnings and loans and similar capital transfer between parent companies and their affiliates.

In addition, Agada and Okpe (2012) saw FDI as an attempt by individuals, groups, companies and government of a nation to move resources of productive purpose across its country to another country with the anticipation of earning some surplus. In fact, foreign investments play a complementary role to the shortage that may exist in domestic capital. These investments are also essential because of their dominant impact on the transfer of technology and advanced managerial skills. These investments are usually accompanied by opportunities to train national cadres and acquire production, marketing and advanced management skills, thereby increasing employment opportunities and rising the aggregate productivity of individuals and institutions.

### III. Empirical Review

There are two strands of related empirical literature on the impact of foreign direct investment and export on economic growth among developed and developing economies. These strands of literature are relevant to the current study in that they provided more insight and in-depth knowledge of the subject matter. The first strand relates to the large number of studies that examine the impact of FDI on economic growth which have largely concentrated on the positive impact while ensuring causal relations. However, the other strand of literature which established a negative impact of FDI on economic growth do not appear to have many literature but plays a vital role in understanding the FDI-growth led hypothesis thereby enriching the capacity of literature. A good number of studies are reviewed and synthesised as follows:

In establishing the impact of FDI in Albania, Boriçi and Osmani (2015) argued that FDIs are essential and significant elements for the development of a country and Albania has still much to be done to encourage such investments, especially in the legislative framework. The authors further established that FDI improves technology and has a positive impact on economic growth. More to that, Su and Liu (2016) investigate the determinants of economic growth with reference to the role of foreign direct investment and human capital. The study utilised data from a panel of Chinese cities covering the sample period of 1991 to 2010. By adopting the human capital-enhanced Solow mode, result shows that FDI has a positive effect on the per capita GDP growth rate and the effect is further intensified by the human capital endowment of the city. Further results indicate that FDI-human capital complementary effect is stronger for technology-intensive FDI than for labour-intensive FDI.

Similarly, Iamsiraraj and Ulubasoglu (2015) evaluate the relationship between FDI and economic growth using a simultaneous system of equations approach of 124 cross-country data covering the sample period of 1971 to 2010. Findings show that FDI has an overall positive effects with economic growth and vice versa; whereas labour force, trade openness and economic freedom are other key determinants of FDI, which in turn stimulate income growth. Likewise, Gohou and Soumare (2012) examine the impact of foreign direct investment inflows on welfare measures across African region. Using panel regression and granger causality test, results show a positive and strongly significant relationship between FDI net inflows and poverty reduction at the aggregate level of Africa as a whole, but the magnitude varies depending on the region. More so, while the relationship between FDI and poverty reduction is positive and significant for economic communities in Central and East Africa, it is found as insignificant in Northern and Southern Africa. Furthermore, the relationship was found to be ambiguous in West Africa. Hence, FDI has greater impact on welfare in poorer countries than in wealthier countries.

Furthermore, Iamsiraraj and Ulubasoglu (2015) examine the global FDI–growth relationship using an up-to-date econometric analysis predicated on substantial guidance obtained from a detailed investigation of 880 estimates reported in 108 published studies. With model uncertainties alleviated and the core specification benchmarked against the aforementioned assessment, this study’s econometric analysis utilised a global sample of 140 countries covering the period of 1970 to 2009. Findings reveal that FDI positively affects economic growth. Further evidences indicate that this relationship is generalised and appears same in the developing world. More so, Azman-Sain, Law and Ahmad (2010) utilise a threshold regression model to examine the impact of FDI on economic growth. Using a cross-country observations for 91 countries over the period of 1975
to 2005, FDI data was extracted from the World Development Indicators (WDI) and expressed as FDI inflows over GDP. Findings indicate new evidence that the positive impact of FDI on growth manifest only after financial market development exceeds a threshold level, otherwise the positive impact remains absent.

In addition, Sunde (2017) examines the relationship between FDI export and economic growth in South Africa by adopting the ARDL bounds testing approach to cointegration and the vector error correction model. Granger causality approach to determine the direction of causality among the variables. Results show the presence of positive relationship between the variables and that FDI and exports encourage economic growth. The VECM Granger causality analysis shows a unidirectional causality running from FDI to economic growth, unidirectional causality running from FDI to exports and bidirectional causality between economic growth and exports. Moreover, Gui-Diby (2014) evaluates the effects of foreign direct investment on economic growth in Africa and present estimations based on panel data of 50 African countries during the period from 1980 to 2009. By employing the system generalized method of moment (SYS-GMM) estimators as proposed by Blundell and Bond (1998), results show that FDI inflows had a significant impact on economic growth in the African region during the period of interest. It further establishes that while the low level of human resources did not limit the impact of FDI, and that the impact of FDI on economic growth was negative during the period of 1980 to 1994 but appears positive from 1995 to 2009 sample period.

In a related development, Pegkas (2015) examines the effects and the relationship between FDI and economic growth in the Eurozone countries over the sampled period of 2002 to 2012. By adopting a panel data estimation to test the relationship between FDI stock and economic growth. In addition, using the Fully Modified OLS (FMOLS) and Dynamic OLS (DOLS) techniques, the results show a positive relationship between FDI and economic growth on Qatar’s business cycles. Using a time series data covering the sample period of 1990 to 2010, VAR Impulse Responses and the Granger Causality test are employed for the estimation. Findings indicate that FDI inflows and the economic growth in Qatar interact with each other in a relatively long-term, and that the inward FDI is positively affected by the economic growth, but more sensitive to its own performance change than to the economic growth.

Correspondently, Roy and Roy (2016) examine the relationships between FDI, institution and economic growth for a group of eighteen Middle East and North African (MENA) countries. Using a sample period covering 18 countries from 2006 to 2012, the study identifies positive and significant roles of foreign direct investment and institutions on the economic growth of the examined countries. It is also indicated from these countries that transparency government, less risk in operating business, and judicial independence provide positive supports to growth in the presence of FDI. Additionally, Abbas, Mostéfa, Seghir and Zakarya (2015) examine the relationship between foreign direct investment and economic growth in 65 countries, using co-integration and panel Granger causality tests in panel data. Findings indicate a disparity in terms of the relationship between the co-integration of the panel study. Further results show a unidirectional causality from FDI to GDP, which could serve as a viable instrument to prioritise the allocation of resources across sectors to attract FDI inflows.

Moreover, Nguyen and To (2017) investigate the relationship between foreign direct investment and economic growth using Threshold Auto Regressive (TAR) model by adopting the bootstrap method to test the statistical significance of the threshold effect. Using a panel data of eight ASEAN countries covering the sample period of 2002 to 2014, results show that the relationship between FDI and economic growth is non-linear. More findings establish two threshold levels of FDI in the regression relationship namely, 4.73% and 4.91% of GDP with asymptotic 95% confidence interval. These thresholds divide the observations into three regimes, in which the impact of FDI on growth will be reversed, once FDI scale reaches the threshold levels. Equally, Rahman (2014) examines the impact of FDI on economic growth of Pakistan using time series data collected from the archived of World Bank data account covering the sample period of 1981 to 2010. The study adopts the multiple regression model for estimation and findings show the presence of positive relationship between the FDI and GDP and have a negative relationship with CPI over the period under consideration.

Likewise, Ali and Hussain (2017) investigate the impact of foreign direct investment on the economic growth of Pakistan by adopting time series data covering the sample period of 1991 to 2015. To estimate the data collected, the study utilises a correlation and multiple regression analysis techniques for analysis. Findings reveal the presence of positive impact of FDI on the economic growth of Pakistan within the period under consideration. Besides, Antwi and Zhao (2013) investigate the relationship between foreign direct investment and economic growth in Ghana for the period covering 1980 to 2010 using time series data. To estimate the data collected, cointegration technique is applied on annual records of FDI, GDP and GNI to determine the level of their relationship. Result shows the existence of long-run equilibrium and causal relationship between FDI, GDP and GNI.
To provide further support in the literature, John (2016) investigates the effect of foreign direct investment on economic growth in Nigeria spanning the sample period of 1981 to 2015 obtained from the archived of the Central Bank of Nigeria statistical bulletin and other publications off the National Bureau of Statistics. To estimate the model, multiple regression technique is employed with the aids of Gretl 1.9.8 econometric software. Findings establish that foreign direct investment has a positive and significant effect on gross domestic product. However, Agrawal (2015) evaluates the relationship between foreign direct investment and economic growth in the five BRICS economies namely, Brazil, Russia, India, China and South Africa over the period of 1989 to 2012. By adopting a panel cointegration and Granger causality test, results show that FDI has a positive impact on economic growth and that the impact of FDI on economic growth is beneficial for host country’s trade and investment. In the same vein, Sârbu and Ceka (2015) examine the impact of FDI on the economic growth of Romania using a time series data covering the period of 2000 to 2013. Using the ordinary least square, findings indicate that FDI has a positive and significant effect on the economic growth of Romania for the period under consideration.

From the Baltic States, Simelytė, Dzudevičiute and Liucvaitienė (2017) investigate the significance of foreign direct investment and its role in economic development and further explored the problems which exist in attracting FDI. By using annual data covering the period of 2000 to 2016 and employing the bivariate correlation and Granger causality test, results establish that FDI positively influences the growth of host economy as it creates new job places while domestic companies improve their technological processes. Further result indicates that the Baltic States are dependent on FDI from the Scandinavian and shows a varying degree of causality depending among the Baltic States. Further, Suleiman, Kaliappan and Ismail (2013) investigate the impact of FDI on economic growth for the Southern Africa Custom Union (SACU) countries namely; Botswana, Lesotho, Namibia, South Africa and Swaziland covering the sample period of 1980 to 2010. By adopting a Dynamic Ordinary Least Squares (DOLS), result shows the existence of positive and significant impact of FDI on the economic growth for the SACU countries.

Besides, Uremadu, Umezurike and Odili (2016) examine impact of foreign direct investment on economic growth in Nigeria using annual timeseries data spanning the period of 1981 to 2013. By adopting the OLS and vector error correction model for estimating the long run effects and the parsimonious short run dynamics of the parameter estimates, findings indicate that foreign direct investment has positive and significant impact on gross domestic product in Nigeria for the period under consideration. Nevertheless, Baldi and Meihe (2015) provide an overview of the large and heterogeneous academic literature on the impact of foreign direct investment on economic growth. The results of the existing studies indicate that foreign direct investment often acts as a kind of catalyst and that a positive influence on economic growth becomes more probable when a country has a population with a high level of education, high-quality infrastructure, or a developed financial system.

Notwithstanding, Mahadika, Kalayci and Altum (2017) investigate the long-run relationship between FDI, GDP and export volume of Indonesia using time-series data spanning the sample period of 1981 to 2013. By adopting the cointegration test, result shows the existence of long-run relationship among the variables and that export volume and FDI have significant influence on economic growth of Indonesia. From another region, Ullah, Shah and Khan (2014) examine the dynamic interaction between domestic investment, foreign direct investment and economic growth in Pakistan for the period spanning 1976 to 2010. To estimate the model coefficients, Johansencointegration approach and Toda-Yamamoto causality approach are adopted to examine the long-run relationship and evaluate causal nexus among the variables. Result shows the presence of long-run relationship between domestic investments, foreign direct investment, and economic growth, while Toda-Yamamoto causality establishes a bidirectional causality between FDI and domestic investment in Pakistan.

Similarly, Chanie (2017) examine the impact of FDI on economic growth by incorporating a simultaneous equation econometric model and 3SLS estimation technique based on time series data over the sample period of 1974 to 2014. Result shows a positive and statistically significant impact of FDI on economic growth in Ethiopia, though the impact is weak in magnitude which is below the relative impact of domestic capital investment on economic growth. Nonetheless, Freckleton, Wright and Craigwell (2012) investigate the relationship between economic growth, foreign direct investment and corruption in 42 developing and 28 developed countries using a panel dynamic ordinary least squares. Result shows that FDI has a significant influence on economic growth in both the short-run and long-run for developing and developed countries. In the cases of developing countries, lower levels of corruption enhance the impact of FDI on economic growth.
Likewise, Sothan (2017) investigates the causal linkage between foreign direct investment and economic growth in Cambodia spanning the period of 1980 to 2014. Using the granger causality based on the vector error correction model, result establishes evidenceon the causal impact of FDI on Cambodia’s economic growth. Also, Othman, Jafari and Saromidi (2014) examine the impact of FDI on conventional GDP and Genuine Saving (GS) growth as well as on the GDP-GS gap for Malaysia spanning 1974 to 2009. The possible nonlinearities related to the impact of FDI are captured using a macroeconomic indicator as a threshold variable. Finding shows that FDI significantly impacts on Malaysian GDP and GS growth as well as on reducing the GDP-GS gap once the general macroeconomic conditions in the country reaches a particular level.

In the same vein, Barkauskaite and Naraseviciute (2016) examine the impact of foreign direct investment on economic indicators of the Baltic countries given their homogenous economic circumstances. By adopting the logical comparative and generalisation methods, systematic literature analysis as well as methods of mathematical statistics, findings indicate that foreign direct investments have positive influence on economies through gross domestic product and labour productivity growth in all Baltic countries, though foreign direct investments do not influence the unemployment rate in all Baltic countries. Equally, Hussain and Haque (2016) investigate the relationship between foreign direct investments, trade, and growth rate of per capita GDP in Bangladesh using annual time series data spanning the period of 1973 to 2014. To estimate the model coefficients, Vector Error Correction Model (VECM) analysis shows that long-term relationship exists amongst the variables. Further result indicate that foreign direct investment and trade have significant impact on the growth rate of GDP per capita in Bangladesh.

Furthermore, Quoc and Thi (2018) investigate the relationship between foreign investment and economic growth in Vietnam by adopting a VAR model taking into cognisance the annual data covering the sample period of 1986 to 2015. Findings show the existence of positive linkage between the FDI and GDP for the period under consideration. Also, Adeleke and Olowe (2014) investigate impact of foreign direct investment on Nigeria economic growth spanning the period of 1999 to 2013 by employing the OLS estimation technique. Result shows that foreign direct investment inflow is related to economic growth and it is also statistically significant at 5% level which implies that a good performance of the economy is a positive signal for inflow of foreign direct investment in Nigeria.

Additionally, Taguchi and Wang (2017) assess the effect of inward foreign direct investment on economic growth in Chinese provinces by conducting the Granger causality and impulse response tests in a vector auto-regression (VAR) model, by clearing the endogeneity problems of targeted variables under a VAR framework. Findings indicate a positive effect of FDI on economic growth in aggregate form. By disaggregating the provinces, the positive effect appears only in the eastern region, but not in the non-eastern region. Also, Melnyk, Kubatko and Pysarenko (2014) examine the impact of foreign direct investing on economic development of post-communist transition economy countries. Neoclassical growth theory model is used to analyse the effects of FDI on economic growth. Theresults show that FDI significantly impact on economic growth of countries under investigation.

More so, Ozekhome (2017) instigates the relationship between institutions, foreign direct investment and economic growth in Nigeria by adopting the Generalized Method of Moments (GMM) estimation techniques on annual time series data spanning the period of 1981 to 2015. Result shows that democratic institutions and foreign direct investment are significant variables influencing economic growth, and that FDI establishes a positive effect on real GDP in Nigeria. Using quarterly data from 1994 to 2008, Acaravci and Ozturk (2012) provides a survey of the literature on FDI, export and growth, and empirically investigates the causal relationship betweeneconomic growth, export and FDI for the ten transition European countries (Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovak Republic and Slovenia). By employing the ARDL and error correction based granger causality test, results show the presence of long-run relationship among the variable and a causal linkage between FDI, export and economic growth.

By adopting a Logistic map, Volos, Kyriamidis and Stouboulos (2015) examine the effect of foreign direct investments in a country’s economic growth by using tools of nonlinear dynamics. As a model of economic growth of a country, a well-known nonlinear discrete-time dynamical system, the Logistic map is adopted for the analysis. Simulation results of system’s behaviour and especially the bifurcation diagrams reveal the strong connection between the countries of the proposed system and the effect of foreign direct investments in the economic growth of the host country. Likewise, Seyoum, Wu and Lin (2014) use annual balanced panel data to examine the Granger causal relationship between foreign direct investment and economic growth for 23 African countries spanning the sample period of 1970 to 2011. Using panel econometric techniques, result shows a bidirectional Granger causality relationship between FDI and economic growth.

Using a Granger causality test, Ouhibi, Zouidi and Hammami (2017) examine the interrelationship between foreign direct investment, public debt and economic growth in southern Mediterranean countries by using a simultaneous equation model estimated by Generalized Method of Moments (GMM) technique. Results establish a bidirectional causal linkage between economic growth and foreign direct investment, a unidirectional causal relationship between public debt and economic growth, as well as between public debt and foreign direct investment.
investment. In same vein, Ogobkó (2016) investigates the influence of foreign direct investment on economic growth of Namibia using a cointegration technique. Using annual data from 1990 to 2014, findings indicate the presence of long-run relationship among the examined variables. The estimated long-run equation also indicates a positive connection between the foreign direct investment and real gross domestic product. Similarly, there is a unidirectional causality running from real exchange rate to net foreign direct investments.

With GMM as technique of analysis, Hayat (2017) examines the role of institutional quality in economic growth and more specifically the role it plays via the channel of foreign direct investments and further utilises economic performance-relevant indicators of institutional quality to evaluate their direct impact on economic growth and their indirect impact on economic growth via foreign direct investment. By employing a larger dataset of 104 countries and applies GMM estimation method to a dynamic panel data, results show that FDI inflows cause stronger economic growth in countries with better institutional quality compared to countries with lower institutional quality.

According to Gunby, Jin and Reed (2017), there is an evidence of FDI-related productivity spill-overs in China. Although these spill-overs may or may not be of adequate size to affect growth at the aggregate level. Using a Weighted Least Square (WLS) estimators the fixed effect estimator, result shows that the impact of FDI on Chinese economic growth is generally small and statistically insignificant. In addition, Lo, Hong and Li (2016) examine the role of FDI in Chinese economic development taking into cognisance the broader theoretical literature on FDI and late development, which involves structuralism and radical political economy along with neoclassical economics covering 1979 to 2010. Result shows that FDI in China has indeed revealed a positive effect and further promoted economic development through improving allocative efficiency but has also indicated an inauspicious effect in worsening productive efficiency. Consequently, the overall result lean towards a negative impact on sustainable development.

Furthermore, Belloumi (2014) assesses the relationship between trade, FDI and economic growth in Tunisia by applying the Autoregressive distributed lag model (ARDL) approach to cointegration for the sample period covering 1970 to 2008. Findings indicate the presence of long-run relationship among the variables. Further results show the absence of significant Granger causality from FDI to economic growth, from economic growth to FDI, from trade to economic growth and from economic growth to trade in the short run. In another development, Yalta (2013) adopts a simulation based inference to evaluate the causal relationship between foreign direct investment and gross domestic product in China for the sample period of 1982 to 2008 both in a bivariate and a multivariate framework. By employing a maximum entropy bootstrap based approach, result indicates the non-existence of statistically significant relationship between FDI and GDP growth. Further evidence shows that FDI does not necessarily lead to higher economic growth at the aggregate level and suggest the need for undertaking disaggregated analyses using industrial and provincial level data for the formulation of effective macroeconomic policies concerning the flows of FDI.

More so, Alvarado, Iñiguez and Ponce (2017) investigate the impact of foreign direct investment on economic growth in 19 Latin American countries using panel data econometrics. Result shows that the effect of FDI on economic growth is not statistically significant in aggregated form. By disaggregating based on region development status, FDI has a positive and significant effect on product in high-income countries, while in upper-middle-income countries the effect is uneven and non-significant. Finally, the effect in lower-middle-income countries is negative and statistically insignificant. Moreover, Mazenda (2014) examines the effect of foreign direct investment on economic growth of South African economy covering the sample period of 1980 to 2010. By adopting a Johansen cointegration and vector error correction model, results establish that FDI real exchange rate and debt have a negative impact on growth, while domestic investment has a positive impact on growth.

According to Carbonell and Richard (2018), during the observation period spanning the period of 1984 to 2010, FDI rose significantly and Spain offered ideal conditions for FDI to unfold its hypothesised positive effects on growth. Results show no evidence of FDI to enhancing economic growth in Spanish economy. Also, Johnson and Ramirez (2015) evaluate the impact of foreign direct investment inflows on the economic growth of Côte d’Ivoire covering the sample period of 1975 to 2011. Using the error correction model, result establishes that gross fixed capital formation has a short-run positive impact on economic growth, while FDI has an negative effect on economic growth in Côte d’Ivoire. In the same vein, Brenner (2014) investigates the effect of foreign direct investment on national economic growth using the GMM panel regressions. Furthermore, using data covering the periods of 1974 to 1991 and 1992 to 2009 for both developed and developing economies, result shows FDI to be significant in developed countries but negative in less developed economies.

In a related development, Libanda, Marshall and Nyasa (2017) examine the effects of FDI on aspects of the economy like employment sector and to analyse whether it is the best alternative of capital inflow for Zambia as a developing nation and if it can be replaced by better forms of capital inflow. Using both questionnaire and secondary information, charts, tables, percentages and situational observation are employed as techniques of analysis. The authors concluded that Zambia does not have what it takes to actually make FDI beneficial for its economic situation as FDI favours more the well off and stable economies.
From the review, it is clearly evident that there is lack of consensus among policy analyst and scholars on the impact of FDI on economic growth across developed and developing economies. Even though different methodologies and sample time period were used, the literature remains inconsistent on the precise nature and impact of FDI and export toward accelerating rapid and sustainable economic growth.

IV. Data Source and Methodology

The coverage of this study is limited to the Nigerian economy using annual time series data spanning a sample period of 1981 to 2018. The choice of this time-range is due to data availability and the significant role played by export and FDI in accelerating sustainable growth and development within the time under consideration. Data on real Gross Domestic Product (GDP), Foreign Direct Investment inflows (FDI) and total Export (EXV) are collected from the statistical bulletin of the Central Bank of Nigeria. Economic growth is measured by the increase in real GDP for each successive time period, and it is expressed in constant 2000 based year. The FDI is the value of real gross foreign direct investment inflows to GDP ratio. Foreign direct investments the net inflows of investment to acquire a lasting management interest in an enterprise operating in an economy other than that of the investor. For the total net export, it is the measure of total trade volume in a given country. More so, export is goods and services that are produced in a particular country and sold to buyers in different countries.

The empirical analysis involves the application of Ordinary Least Square (OLS) regression technique, Johansen cointegration technique and the Granger causality model with the view to examining the impact and measure the long-run relationship between FDI inflow, total export and real GDP. The OLS regression analysis is a statistical technique for estimating the relationship between a dependent variable and one or more independent variables. In another perspective, regression analysis is a form of predictive modelling technique which investigates the relationship between dependent and independent variable(s). This technique is used for forecasting, time series modelling and finding the causal effect relationship between the variables. The mathematical expression of the model if given as:

\[ Y = \alpha + \beta_1 x_1 + \beta_2 x_2 + \ldots + \beta_n x_n \quad (1) \]

To incorporate the study variables into the model using the aforementioned framework, the following equation will be attained as:

\[ GDP_t = \alpha + \beta_1 FDI_{it} + \beta_2 EXV_{it} + \varepsilon_t \quad (2) \]

Where, GDP= represent the economic growth; FDI= foreign direct investment; EXV= total export; \( \varepsilon = \) error term. In the aforementioned model, GDP is used as the dependent variable whereas FDI and EXV as independent variables.

Nevertheless, cointegration implies the presence of a longrun relationship between variables. The aim of cointegration testing is to test whether two or more integrated variables deviate significantly from a certain relationship. If the variables are cointegrated, they move together over time so that short term disturbances will be corrected in the long term. This implies that if, in the long-run, two or more series move closely together, the difference between them is constant. Otherwise, if two series are not cointegrated, they may wander arbitrarily far away from each other.

However, if the variables are found to be helpful for predicting another variables, then it is said to be granger causal. Also, the notion of granger causality does not implies true causality, but implies forecasting ability of the technique. On the other hand, stationarity of macroeconomic variable is very essential and highly relevant in time series analysis. This is because, nonstationary variables pose difficulties in the estimation results. For OLS regression estimates with nonstationary outcome, the results will be spurious. To avoid this occurrence, a standard unit root test mostly applicable to time series data, namely the Augmented Dickey Fuller test is adopted.

V. Results and Discussion

To measure the impact of FDI and export volume on the Nigerian economic growth, a regression model is applied to estimate the model coefficient. However, it is essential to measure the stationarity or otherwise of the variables with the view to avoiding spurious regression. Result for stationarity test via the Augmented Dickey Fuller (ADF) unit root testing is presented as follows:

<table>
<thead>
<tr>
<th>Variable</th>
<th>Level</th>
<th>1st difference</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP</td>
<td>-1.503995</td>
<td>p-value= 0.8091</td>
<td>-3.319501** p-value= 0.0793</td>
</tr>
<tr>
<td>FDI</td>
<td>-2.436765</td>
<td>p-value= 0.3558</td>
<td>-4.839071* p-value= 0.0022</td>
</tr>
</tbody>
</table>

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The decision rule guiding the ADF test is to reject stationarity if the ADF statistics (in absolute terms) are greater than the critical values at 1%, 5%, and 10% or accept stationarity if the ADF statistics (in absolute terms) are less than its critical values at the given levels of significance. If the variables are found to be stationary, then estimation may continue with the view to attaining a valid result. Estimated findings from Table 1 show the outcome of unit root test based on the ADF framework. At level, all variables exhibited the presence of unit root (non-stationarity) given their p-values but integrated at the first difference. Apart from the real GDP that expresses stationarity at 10% level, FDI and EXV demonstrate stationarity at 5% level of significance. In order words, result from ADF test indicates stationarity at first difference I(1) for all variables since their respective t-statistics are greater than the corresponding critical values either at 10%, 5% or 1% levels of significance. This implies that the time series properties of the variables are first difference stationary which further pave ways for estimation of long-run relationship.

### i. Regression estimate

To understand the effect of foreign direct investment and total export on economic growth; there is need to employ the ordinary least square regression. Empirical findings based on the regression analysis is presented as follows:

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std.Error</th>
<th>t-Statistics</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FDI</td>
<td>0.029414</td>
<td>0.016258</td>
<td>1.809247</td>
<td>0.0790</td>
</tr>
<tr>
<td>EXV</td>
<td>0.195787</td>
<td>0.013842</td>
<td>14.14408</td>
<td>0.0000</td>
</tr>
<tr>
<td>C</td>
<td>8.745125</td>
<td>0.166436</td>
<td>52.54357</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

R² = 0.85
F-statistic = 0.000000

Source: Author’s computation using Eviews 10

Table 2 presents the regression estimates obtained from the previously mentioned model as stated in equation 2 based on the OLS technique with the view to showing the effect of foreign direct investment and total export on real GDP in Nigeria. From the result, the coefficient of FDI reveals a positive value of 0.029 with a significant p-value of 0.0790 at 10% level. This implies the existence of positive and significant effect of foreign direct investment on economic growth. This positive effect further shows that productive increase in the FDI inflow will enhance the growth and sustainable development of the Nigerian economy. This result is consistent with the literature as indicated by Ozekhome (2017); John (2016); Ndiaye and Xu (2016). Notwithstanding, the regression coefficient of FDI (0.02) in the economic growth equationshows that one percent increase in the FDIwill eventually increase economic growth only by 2%. Actually this weak link between FDI and economic growth in Nigeria may not be surprising in view of the fact that FDI inflows andits contribution to economic growth needs soundmacroeconomic policies, greater trade openness, advanced infrastructure, large market size, educated human capital and other essential variables.

Furthermore, the coefficient of total export (EXV) is positive with a value of 0.196 significant at 1% level (p-value= 0.0000). This indicates the existence of positive and significant effect of total export on economic growth. Similar and consistent result is obtained in the literature by Sunde (2017); Hussein and Haque (2016). Other important discussion in the study is that economic growth has a complementary relationship with total export in the country. Further result shows that R² (0.85) which is the coefficient of determination gives the proportion or percentage of the total variance in the dependent variable explained jointly by the independent variables. Given the coefficient of 0.85, it implies that 85% of the total variation in economic growth is explained or caused by the FDI and total export in Nigeria. In addition, the result for the overall F-statistic shows that the model is well-fitted and variables are utilised as explained by the probability value of 0.0000.

### ii. Cointegration test

To examine the long-run relationship among the study variables, a Johansen cointegration test is employed. The test contains two types of cointegration estimates, these are the Trace test and the Maximum Eigenvalue test. The decision rule is to accept the null hypothesis if the likelihood of the critical value is greater than the 5% level of significance, otherwise the null hypothesis is rejected. Estimates from the cointegration test is presented in Table 3 as follows:
The role of FDI in accelerating the pace of economic growth may strongly depends on the circumstances in the recipient countries. Beyond it macroeconomic impulse, FDI has a positive impact on economic growth, improving the total productivity and propel effectiveness of resource use in the recipient country. In developing economies, productive investments coupled with sound export policies play a significant role in improving the aggregate output growth. Direct investments are indicative of a positive trend of investment which eventually translates into increase in real growth of the economy. This study assesses the impact of foreign direct investment and total export on the Nigerian economic growth spanning the period of 1981 to 2018 using OLS, cointegration and Granger causality technique as methods of analyses. As supported by different methods of analyses, this study corroborates the long held belief in the economic literature that foreign direct investment fuels economic growth. In addition to the existence of long-run relationship between the FDI, total export and economic growth, further results indicate no causality running from FDI and GDP and vice versa. Whereas only one unidirectional causality is established between FDI and EXV, implying that higher FDI

Table 3: Result of the Unrestricted Cointegration Rank Test

<table>
<thead>
<tr>
<th>Hypothesized (E(s)</th>
<th>No. of Eigenvalue</th>
<th>Trace statistic</th>
<th>5% critical value</th>
<th>P-value**</th>
</tr>
</thead>
<tbody>
<tr>
<td>None*</td>
<td>0.555118</td>
<td>58.55680</td>
<td>42.91525</td>
<td>0.0007</td>
</tr>
<tr>
<td>At most 1*</td>
<td>0.450563</td>
<td>31.82859</td>
<td>25.87211</td>
<td>0.0080</td>
</tr>
<tr>
<td>At most 2</td>
<td>0.306248</td>
<td>12.06614</td>
<td>12.51798</td>
<td>0.0594</td>
</tr>
</tbody>
</table>

Maximum Eigenvalue

<table>
<thead>
<tr>
<th>Hypothesized (E(s)</th>
<th>No. of Eigenvalue</th>
<th>Max-Eigen statistic</th>
<th>5% critical value</th>
<th>P-value**</th>
</tr>
</thead>
<tbody>
<tr>
<td>None*</td>
<td>0.555118</td>
<td>26.72822</td>
<td>25.82321</td>
<td>0.0379</td>
</tr>
<tr>
<td>At most 1*</td>
<td>0.450563</td>
<td>19.76245</td>
<td>19.38704</td>
<td>0.0441</td>
</tr>
<tr>
<td>At most 2</td>
<td>0.306248</td>
<td>12.06614</td>
<td>12.51798</td>
<td>0.0594</td>
</tr>
</tbody>
</table>

Information presented in Table 3 shows the result of unrestricted cointegration rank test for both Trace and Maximum Eigenvalue in which the long-run relationship between real GDP, foreign direct investment and total export is examined. All these are tested for the null hypothesis of no cointegration on the assumption of linear deterministic trend. Both the Trace and the Maximum Eigenvalue probabilities indicate two cointegrating equations respectively. The results are based on the probability of the critical values less than 5% (P<0.05) level of significance. In other words, Trace statistic shows only 2 cointegrating equations whereas Maximum Eigenvalue also shows 2 cointegrating equations. This implies the rejection of the null hypothesis and established the presence of cointegration among the variables in the model coefficient. This further shows the existence of long-run relationship between the real GDP, foreign direct investment and total export in Nigeria.

iii. Granger causality test

To determine the direction of causality among the variables, a Granger causality model is adopted for this purpose. The proposed direction could be unidirectional, bidirectional and no direction. The decision rule guiding this technique is to accept the null hypothesis when the F probability is greater than the 5% significance level; otherwise the null hypothesis is rejected. Estimates from this technique is given in Table 4 as follows:

Table 4: Result of Pairwise Granger Causality test

<table>
<thead>
<tr>
<th>Null hypothesis</th>
<th>Obs</th>
<th>F-statistic</th>
<th>P-value</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>FDI does not granger cause GDP</td>
<td>36</td>
<td>0.36857</td>
<td>0.6947</td>
<td>No causality</td>
</tr>
<tr>
<td>GDP does not granger cause FDI</td>
<td>0.03966</td>
<td>0.9612</td>
<td>No causality</td>
<td></td>
</tr>
<tr>
<td>EXV does not granger cause GDP</td>
<td>36</td>
<td>2.56624</td>
<td>0.0930</td>
<td>No causality</td>
</tr>
<tr>
<td>GDP does not granger cause EXV</td>
<td>0.00853</td>
<td>0.9915</td>
<td>No causality</td>
<td></td>
</tr>
<tr>
<td>EXV does not granger cause FDI</td>
<td>1.27779</td>
<td>0.2929</td>
<td>No causality</td>
<td></td>
</tr>
<tr>
<td>FDI does not granger cause EXV</td>
<td>4.10517</td>
<td>0.0262</td>
<td>Unidirectional</td>
<td></td>
</tr>
</tbody>
</table>

Table 4 shows the result of pairwise granger causality test for the empirical model as shown in equation 2. From the estimated findings, result shows the existence of only 1 unidirectional relations between FDI and EXV. This implies the presence of unidirectional causality between foreign direct investment and total export in Nigeria. However, the study further concludes that there is no causality relations between the FDI and GDP, EXV and GDP vice versa.

VI. Conclusion

The role of FDI in accelerating the pace of economic growth may strongly depends on the circumstances in the recipient countries. Beyond it macroeconomic impulse, FDI has a positive impact on economic growth, improving the total productivity and propel effectiveness of resource use in the recipient country. In developing economies, productive investments coupled with sound export policies play a significant role in improving the aggregate output growth. Direct investments are indicative of a positive trend of investment which eventually translates into increase in real growth of the economy. This study assesses the impact of foreign direct investment and total export on the Nigerian economic growth spanning the period of 1981 to 2018 using OLS, cointegration and Granger causality technique as methods of analyses. As supported by different methods of analyses, this study corroborates the long held belief in the economic literature that foreign direct investment fuels economic growth. In addition to the existence of long-run relationship between the FDI, total export and economic growth, further results indicate no causality running from FDI and GDP and vice versa. Whereas only one unidirectional causality is established between FDI and EXV, implying that higher FDI
Inflows attract more exports thereby encouraging rapid and sustainable economic growth. In other words, overall result shows the presence of positive and significant effect between foreign direct investment and economic growth which indicate that FDI plays a major role in the growth of the Nigerian economy. It has also been established that impact of total export is positive and significant on economic growth.

Given the positive effect of FDI on economic growth and the absence of causality among the variables, there is ample need for policy makers to develop a specific growth-oriented policies that would create reform measures in the domestic market and further enable a business friendly environment for foreign investors. For a developing country like Nigeria, there is need to concentrate on human resource training in terms of skills and expertise, greater trade openness and creation of a stable macroeconomic environment that would provide more opportunities for sustainable growth. In addition, creating strong infrastructural development and political stability in tandem with FDI inflows are complementary to economic growth. Also, FDI should be targeted towards the productive sectors of the economy and be directed more to production of capital goods against the production of consumer goods in order to enhance domestic capital formation and aggregate export.

Reference


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