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Manufacturing Sector Foreign Direct Investment Inflow and Economic Growth in Nigeria

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Abstract: *Foreign direct investment (FDI) has been a vital source of economic growth in Nigeria, bringing in capital investment, technology and management knowledge needed for economic growth. This study aims at investigating the impact of FDI on economic growth in Nigeria using the autoregressive distributed lag (ARDL) model for the period, 1980-2019. Time series properties of data were examined using Augmented Dicker Fuller (ADF) and Phillip-Perron tests for unit root. The study revealed that FDI in the manufacturing sector had significant positive impact on economic growth in Nigeria. The study also provided evidence on the role of financial development and institutional quality in the FDI-growth relationship, which suggests that the level of financial development had significant effect on the FDI-growth relationship in Nigeria, while Institutional quality had no significant effect on the FDI-growth relationship. It was recommended, inter alia, that government spending should be targeted toward increasing productive activities and providing basic infrastructures.*

Keywords: Foreign Direct Investment, Financial Development, Institutional Quality, Trade Openness and Economic Growth.

I. INTRODUCTION

The Nigerian economy during the first decade after independence continued to be described as an agricultural economy because agriculture served as the engine of growth of the overall economy up to independence and civil war era. During this period, Nigeria was the world's second largest producer of cocoa and largest exporter of palm produce. The agricultural sector contributed over 60 percent of the GDP in the 1960s and despite the reliance of Nigerian peasant farmers on traditional tools and indigenous farming methods, these farmers produced 70 percent of Nigeria's exports and 95 percent of its food needs. However, the agricultural sector was relegated to the background when Nigeria became an oil exporting country (Noko, 2017).

The general structure of the Nigerian economy became influenced by the discovery of oil in commercial quantities in1958 when its first oil field came on stream producing 5,100 barrels per day. Most interestingly, export of crude oil from Nigeria rose in1972 and reached a peak in1979.The upswing in the oil sector fortunes led to the gross neglect of the nonoil sector particularly agriculture, which had hitherto been the mainstay of the economy. Aside from bringing about revenue turnaround, the oil boom also brought Nigeria into international limelight as a major oil producing country in the world. It also led to the neglect of several indigenous vocations in different rural communities, corrupt practices and rural to urban migration in search of perceived oil related white collar jobs among others. Oil revenue accounted for almost 90 percent of Nigeria's foreign exchange earnings and about 85 percent of total exports. In 2014, the Nigerian economy became the largest in Africa and the 26th in the world (Noko, 2017).

The Nigerian economy was hit hard by the decline in oil prices that began in 2014. Before the shock, projections were for continued robust economic growth of about 7 percent per annum, in line with the average growth rate experienced over the previous two decades. However, in the wake of the oil shock, growth slowed sharply in 2015 and the economy experienced an outright contraction in 2016. The unexpected decline in oil production in 2016 explains only part of this downward surprise. Non-oil sectors, which accounted for almost 90 percent of GDP in 2016 also slowed sharply (IMF, 2017).

The objective of most economies is to achieve economic growth and development through poverty reduction, creation of employment opportunities and the promotion of the welfare of the citizenry. Most development theories posit that economic growth can be achieved through the accumulation of physical and human capital. Hence, Nigeria has continued to rely heavily on foreign direct investment (FDI) in order to achieve sustainable growth and development. The Nigerian economy has been one of the highest recipients of capital inflow from the rest of the world (World Bank, 2018). Factors which favoured FDI inflow include large market size of the economy, degree of trade openness, etc. However, there are reasons to cast aspersion on the continued relevance of these factors in the wake of rising incidence of terrorism by Boko Haram which has whittled down the economic gains of yesteryears. The level of Nigeria's share of FDI inflows to Africa fell from 35.3 percent in 1990 to 13.6 percent in 2000 then rose to 16.3 percent in 2005 and stood at 14.1 percent in 2010 (World Bank, 2018). The Nigerian economy went into recession in 2016 for the first time in over thirty years. The GDP contracted by 2.6 percent for the entire 2016 while the flow of FDI slowed down to a trickle. The fall in total FDI came after four consecutive quarters of increase in 2016 from $174.46m in Q1 to $344.63m in Q4.

In 2020, Nigeria's GDP amounted to over 400 billion U.S. dollars. About 13 percent of the GDP was generated by the manufacturing sector. Manufacturing activity is concentrated in large cities like Lagos, Port Harcourt and Ibadan. Millions of people are involved in producing household goods, consumer products, automobiles, agriculture, mining, cement, building materials etc. The Nigerian manufacturing sector is dominated by the production of cement and building materials, food and beverages, tobacco, chemicals and fertilizers, wood, textiles, etc. Out of all, only three subsectors (food & beverage, cement, and textile) account for 77 percent of manufacturing output generating the greatest value. The global supply chain has been deeply disrupted by China, which is the second largest economy in the world, a major supplier of inputs for manufacturing companies around the world, Nigeria inclusive. Many manufacturers and service providers in the country are already experiencing acute shortage of raw materials and intermediate inputs. This has implications for capacity utilization, employment generation and retention and adequacy of products' supply to the domestic market (Varrella, 2021).

A large country with great potentials has corruption, violence, embezzlement, waste and governmental ineptitude eating deep into the system. This however gave rise to a government that was less accountable to the people and had little incentive for institution-building. Economic institutions determine the incentives given to the main performers in the economy as the outcomes of economic processes are influenced by the economic institutions. Through these incentives, economic institutions influence investments (Okoli &Agu, 2015).

It is this unsavoury development that spurred the present researchers to attempt to have another look at the state of Nigerian economy. The assertion is that insecurity, poor institutions and financial disintermediation cause a reduction in GDP and a sharp fall in FDI. The Nigeria experience with Boko Haram in the North-East is a case of open hostility, a situation in which Nigeria has been engrossed with since 2009. This situation not only forced foreign investors out of Nigeria but discouraged other prospective foreign investors from coming into the country.

It has become imperative therefore to examine the situation of the Nigerian manufacturing sector with special attention to the rising insecurity in Nigeria and its attendant impact on FDI inflow, institutional quality and economic growth. Unless this impact is determined, it would be difficult to isolate the contribution of FDI to economic growth in Nigeria. This is because poor institutional quality resulting from growing insecurity in Nigeria could degrade, to a significant degree, the relationship between economic growth and FDI.

The present study is also unique because it aims at gaining insight into the magnitude and direction of the impact of financial development on the relationship between manufacturing sector FDI and economic growth.

Research Questions

This study answered the following questions:
1. What is the impact of manufacturing sector FDI on economic growth in Nigeria?
2. What is the role of financial development on economic growth in Nigeria?
3. What is the role of institutional quality on economic growth in Nigeria?

Objectives of the Study

The broad objective of the study is to examine the role of FDI in boosting the manufacturing sector performance to contribute to economic growth in Nigeria. Specific objectives are as follows:
1. To investigate the impact of manufacturing sector FDI on economic growth in Nigeria.
2. To assess the role of financial development on economic growth in Nigeria.
3. To investigate the role of institutional quality on economic growth in Nigeria.

Research Hypotheses

As a further guide to the conduct and advancement of this study, the researcher verified the following hypotheses.

1. H_0: There is no significant contribution of manufacturing sector FDI to economic growth in Nigeria.
   H_1: There is significant contribution of manufacturing sector FDI to economic growth in Nigeria.

2. H_0: There is no significant effect of level of financial development/FDI interaction on economic growth in Nigeria
   H_1: There is significant effect of level of financial development/FDI interaction on economic growth in Nigeria

3. H_0: There is no significant effect of institutional quality/FDI interaction on economic growth in Nigeria.
   H1: There is significant effect of institutional quality/FDI interaction on economic growth in Nigeria.

II REVIEW OF RELATED LITERATURE

2.1 Conceptual Issues

Mwilima (2003) described FDI as investment made to acquire a lasting management interest (usually at least 10 percent of voting stock) and acquiring at least 10 percent of equity share in an enterprise operating in a country other than the home country of 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 (IMF, 1999). Equally, Mallampally and Sauvant (1999) described FDI as investment by multinational corporations in foreign countries in order to control assets and manage production activities in those countries. Expanded explanation on the meaning of FDI has been offered by Ayanwale and Adeolu (2007) as ownership of at least 10 percent of the ordinary shares or voting stock is the criterion for the existence of a direct investment relationship. Ownership of less than 10 percent is recorded as portfolio investment. FDI comprises not only merger and acquisition and new investment, but also reinvested earnings and loans and similar capital transfer between parent companies and their affiliates. Shiro (2009) suggested that foreign firm may allow local firms to appropriate its technology if this guarantees it access into some of the benefits available in the host country such as access to valuable local technology and possibility of receiving commercial advantages. By implication developing countries like Nigeria require such technical change and technological learning to achieve any meaningful growth.

A 10 percent ownership doesn't give the individual investor a controlling interest in the foreign company. However, it does allow influence over the company's management, operations, and policies. For this reason, governments track investments in their country's businesses.

Foreign Direct Investment in West Africa

FDI to West Africa decreased by 21 percent to $11 billion in 2019. This was largely due to the steep decline in investment in Nigeria, after consecutive increases in 2017 and 2018. Inward FDI to Nigeria almost halved, to $3.3 billion, due to a slowdown in investment in the oil and gas industry. The development of a $600 million steel plant in Kaduna state offers some evidence of investment diversification, a long-standing policy objective. FDI to Ghana dropped by 22 percent to approximately $2.3 billion in 2019. Investment was concentrated in oil and gas facilities, mining (including gold and manganese) and to some degree in agriculture (cocoa). However, there are plans for investment diversification, including attracting investment in the country's six-phase Railway Master Plan, which is set to commence in 2020. FDI to Senegal increased by 16 percent to $1 billion in 2019. Owing to historical ties, France has been the biggest investor in Senegal, but recently there have been important investments from other countries, including China, Turkey and the United Arab Emirates. In 2019, Turkish steelmaker Tosyali launched the Tosyali Economic Zone with the aim to develop a steel industry cluster. A ceramics factory built by Twyford (China) was inaugurated with a cumulative investment of nearly $50 million in Thies, Senegal. Investment to Côte d'Ivoire increased by 63 percent to $1 billion on the back of sustained economic growth, with investments in natural resources, agriculture and services (UNCTAD, 2020).

Manufacturing Foreign Direct Investment in Africa

FDI can play a catalyst role in developing a manufacturing sector, but Africa has lagged behind other regions in both FDI and industrialization. Moving from agriculture into manufacturing (including agro-processing) is usually associated with structural change that creates jobs and develops skills that are critical for continued economic growth and poverty reduction. Manufacturing offers an entry point for industrialization, and by attracting increased FDI, African countries can also benefit from the skills development, management experience, technology transfer, and integration into global value chains that it brings (Guangzhe et al, 2016).

Contrary to common perception, FDI in Africa is no longer concentrated in the primary sector. Even in oil-exporting countries, services and manufacturing are key sectors for FDI. For example, the primary sector accounted for only a little over 30 percent of the total FDI stock in Nigeria in 1992, while manufacturing accounted for almost 50 percent and services close to 20 percent. Almost half of the FDI inflows into Egypt (48 percent) went into services in 1995, with a further 47 per cent going into manufacturing and a mere 4 percent into the primary sector. Mauritius is another example of an African country that has managed, particularly since the beginning of the 1980s, to increase significantly the amount of FDI going into manufacturing industries such as textiles and electronic equipment (UNCTAD, 2013).

2.2 Basic Theories

Analysis of the process of economic growth was a central feature of the work of the English classical economists, as represented chiefly by Adam Smith, Thomas Malthus and David Ricardo. Despite the speculations of others before them, they were regarded as the main precursors of modern growth theory. The ideas of this school reached their highest level of development in the works of Ricardo. The interest of these economists in problems of economic growth was rooted in the concrete conditions of their time.

Specifically, they were confronted with the facts of economic and social changes taking place in contemporary English society as well as in previous historical periods.

The classical growth theory started gaining popularity in the growth literature of the early 1980s in response to a series of criticisms on the assumptions made in neoclassical theory. These tend to discard the assumption of constant returns to scale, replacing it with an increasing return to scale and thus determining growth by mainly endogenous variables (Agwu, 2014). Technology and human capital were regarded as endogenous, unlike the neoclassical model that assumed these to be exogenous. However, the main emphasis on long term growth model is that it does not depend on exogenous factors and, most importantly, that it allows for policies that tend to affect savings and investment (King & Rebelo, 1990).

The model remarked that technological progress is the outcome of knowledge accumulation. This process is considered to be the core element that drives economic growth in the long run. Thus, an economy with knowledge accumulation experiences positive externalities and increasing returns to scale. One of the main postulation is that in the long-run, the society that has developed science and technology will grow faster than the one that has not. Proponents of the endogenous growth model recognized the role of human capital investment in the growth process (Andinuur, 2013).

In examining the work of the classical economists, it was found out that problems of economic growth were analysed through the application of general economic principles, viewing the economic system as a whole, rather than in terms of a separate theory of economic growth as such. These principles were such as to recognize basic patterns of interdependence in the economic system and interrelatedness of the phenomena of production, exchange, distribution, and accumulation. In summary, classical economic analysis is a necessary interconnection among the analysis of value, distribution, and growth (Orji et al, 2015).

In the classical growth model, the potential role for FDI is much greater. FDI may influence each argument in the production function and has additional indirect and thus permanent effects on the growth rate. Again, FDI can impact on the stock of capital available in the country. However, by raising for instance the number of varieties for intermediate goods or capital equipment, FDI can increase productivity. In addition, FDI can permanently increase the growth rate through spillovers and the transfer and diffusion of technologies, ideas, management and production processes, etc. These are basically the four channels which allow for technological spillovers from FDI on the host economy (Orji et al, 2015).

2.3 Empirical Literature

Djankov and Hoekman (2000) studied economic growth and foreign direct investment in the transition economies from 1990 to 2000. By applying the multiple regression analysis, they concluded that the wider benefits of FDI are contingent on the domestic economic and institutional environment – there is nothing automatic about them. They found that the expected spillover benefits to purely domestic enterprises – which represent the broader advantages of FDI for economic development – are found to be few and far between, and often appear to have been negative rather than positive.

Alfaro (2003) studied foreign direct investment and growth: Does the sector matter? The effect of FDI on growth in the primary, manufacturing and services sectors in the United States was examined. OLS was used to analyze the data. The variables used were FDI and GDP. An empirical analysis using cross-country data from 1981 to 1999 suggested that total FDI exerts an ambiguous effect on growth. FDIs in the primary sector, however, tended to have a negative effect on growth, while investment in manufacturing tended to have a positive effect on economic growth. Evidence from the service sector was ambiguous. The limitation of this study is the ambiguity of its findings. The implication of this finding to the Federal Government is the need to apply caution in its drive to procure FDI. This study has no relevance in the Nigerian economic situation which is a developing economy.

Lyroudiand Vamvakidis (2004) studied foreign direct investment and economic growth in transition economies. This study mainly focused on the U.S. and the Western European countries. The paper investigated the existence and the nature of the effect of FDI on the rate of growth, from 1996 – 1998, of a panel of transition economies. He applied Bayesian analysis. His results indicated that FDI did not exhibit any significant relationship with economic growth for the transition countries. The variables used were FDI and economic growth in Greece. This study was not considered relevant to the present study as it focused on FDI growth relationship in developed countries. The findings of such study therefore might not be generalized for developing countries like Nigeria.

Xuan-Vihn and Jonathan (2006) in their study, 'the importance of social factors when assessing the impact of foreign direct investment on economic growth', employed a panel data modeling technique. Overall the analysis supported the view that FDI has a stronger positive impact on economic growth in countries with a higher level of education attainment, openness to international trade and stock market development, and a lower rate of population growth and lower level of risk. Thus countries undertaking reform of cross-border capital restrictions and controls and other policy aimed at encouraging domestic and foreign investment need

to incorporate broader social policy objectives, such as education, legal and institutional reform, to maximize the benefits from FDI. FDI inflows and GDP were the variables used and the research was carried out in India. They suggested that government policy should be directed towards the removal of capital barriers and other regulatory restrictions that may impede FDI to ensure that benefits to economic growth are maximized.

Onu and Njiforti (2010) carried out the study on the relationship between foreign direct investment and economic growth in Nigeria. The study investigated the causal relationship between FDI and economic growth in Nigeria within the period 1986 - 2007. The study employed Granger causality test to determine the causal relationship between FDI and economic growth in Nigeria. The study used Time Series data to determine the nature of causation between FDI and economic growth in Nigeria. The study found that there is a positive relationship between GDP and FDI. The study concluded that GDP caused FDI and not otherwise and recommended improvement in the investment climate for all kinds of capital to enhance competitiveness and strengthen the bargaining position of the country in the emerging globalized economy.

Abbas, et al (2011) investigated the impact of foreign direct investment on gross domestic product. The relationship was tested by applying multiple regression models. The change in GDP was taken as dependent variables while FDI and inflation were considered as independent variables. The data used ranged from year 2001 to 2010 for South Asian Association for Regional Cooperation (SAARC) Countries. The results indicate that the overall model was significant. There was a positive significant relationship between GDP and FDI while there was non-significant relationship between GDP and inflation. They concluded that the volume of FDI in the economy was such to suggest that there was a good trend of investment which ultimately resulted to increase in GDP. Policy implication of finding is that to sustain this trend, government should put policies in place to attract more FDIs.

Gul, et al (2012) studied the factors influencing foreign direct investment. In their study, the role of FDI and trade on growth of Pakistan's economy was analyzed or estimated by the Ordinary Least Square Method. The variables included in this study are; GDP, GNP, FDI, trade of goods and services, employment, exchange rate, consumer price index, BOP, GDP deflator, and GNP deflator. Study spanned across 1990-2008. Foreign direct investment and growth of the economy had strong positive association, which is the most important finding of the study.

Umoh, Jacob and Chukwu (2012) investigated the relationship between FDI and economic growth in Nigeria between 1970 and 2008. The paper reveals that there was endogeniety i.e., bi-directional relationship between FDI and economic growth in Nigeria. Single and simultaneous equation systems were employed to examine if there was any sort of feed-back relationship between FDI and economic growth in Nigeria. The results obtained suggest that FDI and economic growth were jointly determined in Nigeria and that there was positive feedback from FDI to growth and from growth to FDI. The overall policy implication of the result is that federal government should pursue dynamic FDI policies, greater openness and increased private participation.

Adejumo (2013) studied the impact of foreign direct investment on manufacturing sector in Nigeria using the Ordinary Least Square Technique between 1970 and 2009. FDI, Trade Openness, factor productivity and interest rate were the variables used. He found that in the long-run, foreign direct investments had a negative effect on the manufacturing sub-sector in Nigeria.

Andinuur (2013) studied inflation, foreign direct investment and economic growth in Ghana. The study explored the linkages among inflation, FDI and economic growth in Ghana using annual time series data covering the period 1980 - 2011. The study found that GDP growth related positively and negatively with FDI and inflation respectively both in the long run and short run. Also, there was a positive relationship between inflation and FDI.

Baklouti and Younes (2014) studied the impact of institutional quality on the attractiveness of FDI. The study investigated the factors that encourage and inhibit FDI flows to eight countries in the Middle East and North Africa (MENA) covering the period 1996 - 2008. The study employed the ordinary least square for data analysis. It was found out that the quality of the institutional environment which presents itself as a relevant factor in the attraction of FDI and the indicators of corruption and regulatory quality had a negative influence on FDI while the indicator of the effectiveness of public action had a positive influence. The study suggested that government should create policies that will add knowledge to the business environments in other regions in the developing countries.

Adeleke, Olowe and Fasesin (2014) analyzed the impact of foreign direct investment on Nigeria's economic growth. Study covered the period 1999 – 2013. Study employed OLS for the analysis of data. Findings indicate that economic growth was positively related to FDI inflow. They recommended that federal government should adopt trade liberalization policy in order to attract foreign investors

Okoli and Agu (2015) studied the impact of foreign direct investment on the performance of manufacturing firms in Nigeria. The study covered a period of 40 years, from 1990 to 2014. Variables employed for this study were FDI, labour supply, domestic investment, human capital skill and real gross domestic product. The econometric model of multiple regression analysis was employed for analysis.The findings indicate positive relationship between variables. They recommended the need for Government actions to be geared towards strategically maintaining and sustaining policies to encourage FDI inflows.

Orji, et al (2015) studied the impact of foreign direct investment on the Nigerian manufacturing sector. The scope of the study spanned from 1970 to 2010. FDI and Nigerian manufacturing sector output were variables included in the analysis. OLS techniques were employed in analyzing the data. They found that FDI impacted negatively on the manufacturing sector. They recommended that federal government should enact competitive policies which will ensure proper functioning of the markets necessary to attract well targeted foreign investors into Nigeria. They also recommended that foreign companies that kill local productive and manufacturing efforts should not be allowed to operate in Nigeria's local business environment.

Tamilselvan and Manikandan (2015) investigated the contribution of foreign direct investment to the gross domestic product in India. The study spanned across 23 years; from 1991 to 2014. FDI and GDP were variables included in this study. They found that FDI impacted GDP positively. Recommendation was that government should provide a conducive investment environment to attract more FDI.

Hussain and Haque (2016) studied the impact of foreign direct investment on trade and economic growth. The study covered the period 1973 – 2014. FDI, trade openness, and economic growth were variables included in the study. They found that there was a relationship among FDI, trade and economic growth.. OLS technique was employed for analysis. Findings suggest that there was a long-term relationship among the variables. They recommended that government should design policies that promote growth and reduce the barriers that hinder capital flows.

Achugamonu, et al (2016) investigated the factors that constrain the inflow of foreign direct investment into Nigeria's economy. Their study spanned across 1980 - 2015. Variables utilized for the study were FDI, debts, inflation rate and exchange. The study found that government external and domestic debts, inflation rate and exchange rate had significant long run relationship with FDI in Nigeria. They recommended that: (1) A prudent management of Nigeria's domestic and external debt. (2) The monetary authorities should devise effective ways of moderating and managing the inflation and exchange rate.

Okafor, Jegbefumwen and Okafor (2016) studied the key factors that influenced the contribution of FDI to economic growth in Nigeria. The study covered the period1981 – 2014. Findings indicate that: (1) Public sector investment and marginal efficiency of capital influenced the contribution of FDI to growth in Nigeria. (2) Public sector investment boosted foreign capital, declining marginal efficiency of capital eroded the private capital of domestic firms which had low absorptive capacity to harness the sophisticated technology of Multinational Companies. They recommended that a dynamic FDI policy that takes into cognizance the importance of public sector investment and marginal efficiency of capital can harness FDI to contribute maximally to growth.

Etim, Jeremiah and Jeremiah (2019) investigated the factors that attracted Foreign Direct Investment (FDI) In Nigeria through Effective Tax Policy Incentives. The study spanned across 1999 – 2017. Variables utilized for the study were FDI, investment allowance, Tax Credits and reduced tax rate. The study found that cost based tax incentives (investment allowance (IVA) and tax credit (TXC)) correlated with FDI. They recommended that government and foreign investment policy makers should enhance the efficiency and effectiveness in the implementation of investment allowances, tax credits and other cost based tax policy incentives for foreign investors.

Summary of Literature Review

Review of conceptual literature has revealed that while there are conceptual issues of size, control and ownership, they are not peculiar to manufacturing sector FDI and therefore do not pose a serious definitional problems that could offset the conceptual framework for the present study.

Theoretical literature review which examined the major postulates of the classical growth theory has revealed its suitability for guiding the choice of relevant variables in this study. In the classical growth model, the potential role for FDI is much greater. FDI may influence each argument in the production function and has additional indirect and thus permanent effects on the growth rate.

From the empirical review, evidence abounds that studies on FDI and growth have continued to engage researchers for decades. However, literature is replete with studies that focused on the effect of interaction among FDI, insecurity, institutional quality and financial development on growth. It is the need to fill this perceived lacuna which has provided the a priori justification for this study.

III RESEARCH METHOD

The purpose of this chapter is to provide adequate and appropriate methods for this study. However, the basic objective of the methods employed in this study is to answer the research questions stated and hypotheses postulated. Theories that motivated this study were revisited. The model was then derived and specified, the variables included in the analysis were clearly defined together with the estimation technique and procedure.

Empirical Model Specification

The Cobb-Douglas production function, also called the neoclassical production function, is expressed as follows:

$Y = L^a K^b T$

Where:

Y= output

L= labour

K= capital

T= time or the rate of technological progress which changes over time

The weights a and b represent the proportion of Y that accrues to labour (L) and capital (K) respectively. The inclusion of the technology variable augments labour productivity and increase the output capabilities of labour.

The simple Solow (1956) model depicts the output, Y, of a business, as a function of three variables: capital, K, labour, L, and knowledge or the "effectiveness of labour"A_t

$Y = K^a(A_t L)$

Therefore, Y will be represented by RGDPG. T in the Cobb-Douglas production function or A in the Solow model will be represented by FDI because the presence of foreign investors in a country usually comes with new technologies which brings about improved knowledge in production. The equation becomes:

RGDPG = f(LAB, CAP, FDI) (3.1)

Where RGDPG is real GDP growth rate; LAB is labour, CAP is capital and FDI is foreign direct investment.

Modifying the above functional model and following previous empirical studies on FDI-led growth, such as Azman-Saini et al. (2010) and GUI-Diby (2014), this study specifies empirical growth model of the form:

RGDPG = f(FDI, X) (3.2)

Where RGDPG is real GDP growth rate; X is a vector of other explanatory variables other than FDI and FDI is foreign direct investment.

The first objective is to examine the impact of FDI that is committed to the manufacturing sector on economic growth in Nigeria (FDIMAN). Thus, modifying equation (3.2) and rendering it stochastic, we obtain the following dynamic models to capture the dynamics of the variables over time:

$LnRGDPGt = \prod 0 + \prod 1 LnRGDPG_{t-1} + \prod 2 LnFDIMAN_{t-1} + \prod 3 LnX_{t-1} + Ut$ (3.3)

The group of control variables is comprised of covariates frequently used in the FDI–growth literature, including: exchange rate (EXR), financial development (FIDEV), institutional quality (INSQ) and trade openness (OPN).

Expanding equation (3.3), we obtain the following estimable model in a log-log form: The variables are expressed in double log in order to standardize them.

$LnRGDPGt = \prod 0 + \prod 1 LnRGDPG_{t-1} + \prod 2 LnFDIMAN_{t-1} + \prod 3 LnEXR_{t-1} + \prod 4 LnFIDEV_{t-1} + \prod 5 LnINSQ + \prod 6 LnOPN_{t-1} + Ut$ (3.4)

A priori Expectation

$\prod 1, \prod 2, \prod 4, \prod 5, \prod 6 > 0$ while $\prod 3 < 0$,

The study attempts to assess the role of financial development and institutional quality and the impact on FDI. This study strongly argues that the potency or otherwise of FDI will depend on the level of financial development in the economy and the strength of

the institution in place. To account for the role of these indicators in the FDI-led growth model, we modify our baseline model and obtain the following equations.

$$LnRGDPGt = \eta0 + \eta1LnFDI_t + \eta2LnFIDEV_t + \eta3LnFDI_t*LnFIDEV_t + Z1t \quad (3.5)$$

$$LnRGDPGt = \gamma0 + \gamma1LnFDI_t + \gamma2LnINSQ_t + \gamma3LnFDI_t*LnINSQ_t + Z2t \quad (3.6)$$

Where FDI is total foreign direct investment inflow into Nigeria's economy, FIDEV is financial development and INSQ is the quality of institution. Our interest in both equations are the interaction terms FDI*FIDEV in equation (3.5) and FDI*INSQ in equation (3.6). The significance of the first interaction term implies that an economy that has good financial development is more likely to benefit from FDI. The significance of the second suggests that the marginal effect of FDI on growth will depend on the level of institutional qualities in the host countries.

IV RESULTS

Table 1: Summary of Descriptive Statistics

	RGDPG	FDIMAN	FDI	EXR	OPN	FIDEV	INSQ
Mean	3.47	140865.8	2.78E+09	80.75	56.12	17.42	0.65
Median	3.99	35393.00	1.57E+09	57.37	62.12	16.95	0.62
Maximum	33.74	600123.2	8.84E+09	305.0	81.81	38.0	0.85
Minimum	-13.13	1503.900	37867100	0.55	23.61	8.60	0.47
Std. Dev.	7.42	191470.9	2.68E+09	80.56	14.78	5.76	0.12
Skewness	1.27	1.209573	0.913614	0.74	-0.82	1.54	0.29
Kurtosis	9.15	3.015897	2.465682	2.86	2.94	6.57	1.77
Jarque-Bera	70.06	9.266488	5.738407	3.50	4.30	35.19	2.92
Probability	0.000	0.010	0.057	0.173	0.116	0.000	0.232

Source: Authors computation using EViews 10.0

Given the manner some of our data are constructed, there is tendency that some of them may be correlated. There is therefore, the need to investigate this, to ensure that multicollinearity does not constitute a problem. Multicollinearity occurs when two regressors are correlated to a high degree.

Table 2: Summary of Correlation Analysis

	LEXR	LFDI	LFDIMAN	LFIDEV	LINF	LINSQ	LOPN	LRGDPG
LEXR	1							
LFDI	0.69	1						
LFDIMAN	0.66	0.53	1					
LFIDEV	0.45	0.52	0.55	1				
LINSQ	0.45	0.62	0.65	0.76	-0.42	1		
LOPN	0.76	0.68	0.67	0.09	-0.06	0.2	1	
LRGDPG	0.49	0.34	0.44	0.15	-0.07	0.22	0.37	1

This table shows the result of pairwise correlation coefficients of the variables of the model. Following the rule of thumb, a pairwise correlation between two variables is said to be high if the correlation coefficient is in excess of 0.8. The result shows that there is no problem of multicollinearity since the pairwise correlation coefficients for all the variables are less than 0.8.

Table 3: Summary of Perron (1989) and Vogelsang and Perron (1998) breakpoint unit root test

Series	Break date	t- Statistic@ level	t-Statistic@ difference	Remark

EXR	1999	-2.26	-7.61***	I(1)
		(-5.35)	*(-4.95)*	
FDI	1997	-6.50***		I(0)
		(-5.34)		
FDIMAN	2004	-4.86	-6.62***	I(1)
		(-5.34)	*(-5.34)*	
FIDEV	2010	-4.04	-6.36***	I(1)
		(-5.35)	*(-5.35)*	
INSQ	1996	-4.85	-6.16***	I(1)
		(-5.35)	*(-5.35)*	
OPN	1997	-3.75	-9.86***	I(1)
		(-5.35)	*(-5.35)*	
RGDPG	1994	-7.60***		I(0)
		(-5.35)		

Note: *** denotes significant at 1 percent significance level. The test critical values in bracket [( )]
Source: Authors' computation using E Views 10

This table shows the results of Perron (1989) and Vogelsang and Perron (1998) breakpoint unit root test. These results suggest that five of the variables (exchange rate, FDI meant for manufacturing, financial development, institutional quality and trade openness) are integrated of I(1) at 5 percent significance level, while foreign direct investment and real GDP growth are integrated of order zero, that is they are I(0) processes. These results indicate that more probable break-points in the data occurred during the pre-democratic era in Nigeria (period before 1999). However, breaks in exchange rate, manufacturing sector FDI and financial development occurred between 1999 and 2010, which coincidently is the era of civil rule. Since the results of the unit root test suggest that some series are stationary at levels while others are stationary at first difference, the application of ARDL bound testing approach to cointegration in order to investigate the possibility of long run equilibrium among the variables is justified.

Table 4: ARDL Bounds Test Result.

Null Hypothesis: No long-run relationships exist

Test Statistic	Value	k
F-statistic	3.95**	6
Critical Value Bounds		
Significance	I(0) Bound	I(1) Bound
10 percent	2.26	3.35
5 percent	2.62	3.79

Note: ** denotes significant at 5 percent significance level.

Given the null hypothesis of no long run relationship, the result indicates that the null hypothesis cannot be accepted. This is because the computed F-value of 3.95 is greater than upper bounds [I(1) bound)] critical value of 3.79 at the 5 percent significance level. This implies that all the variables in the baseline model are co-integrated. Based on this, we conclude that long-run relationship exists between real GDP growth and the explanatory variables.

Table 5: Long run estimates of economic growth model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LFDIMAN	0.083**	0.034504	2.409054	0.0416
LFIDEV	0.183**	0.062562	2.928495	0.0305
LEXR	-0.019	0.054603	-0.344887	0.7381

LINSQ	0.762*	0.352658	2.159871	0.0591
LOPN	0.537**	0.226628	2.370500	0.0419
C	2.582**	1.198205	2.154564	0.0596
Adjusted R^2 = 0.76 F-stat = 5.74 (0.004965) DW = 1.89				

Note: ** and * denote significant at 5 percent and 10 percent significance level respectively
Source: Authors' computation using E Views 10

The long-run estimate of the model is presented in Table 5. The estimated coefficient of FDI meant for manufacturing, financial development, institutional quality and trade openness are positive and significant at 5 percent significance level. On the other hand, the coefficient of exchange rate is negative and non-significant. The results indicate that 1 percent rise in manufacturing sector FDI, leads to 0.08 percent increase in real GDP growth. One percent increase in financial development leads to 0.183 percent increase in real GDP growth. One percent rise in institutional quality leads to 0.76 percent increase in real GDP. One percent rise in trade openness leads to 0.54 percent increase in real GDP. One percent rise in exchange rate leads to 0.019 percent fall in real GDP growth.

The F-statistic is 5.74 with probability value of 0.005. This suggests that all the partial coefficients are not collectively equal to zero and hence statistically significant at 1 percent critical value. The adjusted R-square of 0.76 implies that about 76 percent variation in economic growth in Nigeria is caused by the explanatory variables. The Durbin-Watson test for serial correlation indicates that the error terms are not serially correlated since it is approximately equal to two.

Table 6: Short run of the RGDP model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LRGDPG(-1))	0.908**	0.414355	2.191556	0.0561
D(LRGDPG(-2))	0.111	0.277658	0.399511	0.6988
D(LRGDPG(-3))	0.130	0.128470	1.011732	0.3381
D(LFDIMAN)	0.154	0.265710	0.578560	0.5771
D(LFDIMAN(-1))	-0.241	0.303987	-0.792283	0.4486
D(LFDIMAN(-2))	0.729**	0.259142	2.811646	0.0203
D(LFIDEV)	0.466	0.298121	1.562810	0.1525
D(LFIDEV(-1))	0.318	0.233662	1.363026	0.2060
D(LEXR)	-0.179	0.129335	-1.383259	0.1999
D(LEXR(-1))	-0.166	0.153546	-1.082919	0.3070
D(LINSQ)	1.255	1.015722	1.235887	0.2478
D(LINSQ(-1))	2.095	1.647965	1.271249	0.2355
D(LINSQ(-2))	-2.071	1.891649	-1.094843	0.3020
D(LINSQ(-3))	1.849	1.189314	1.554698	0.1544
D(LOPN)	-0.231	0.252446	-0.916772	0.3832
D(LOPN(-1))	-0.248	0.284505	-0.870473	0.4067
D(LOPN(-2))	0.756**	0.280005	-2.700412	0.0244
D(LOPN(-3))	0.211	0.242621	0.869085	0.4074
CointEq(-1)	-0.353**	0.072905	-4.841886	0.0017

Note: ** denotes significant at 5 percent significant level
Source: Authors' computation using E Views 10.0

The table shows that the error correction term in each model is correctly signed with the value -0.35 and statistically significant at the 5 percent significance level, this further confirm the existence of long run relationship between economic growth and the explanatory variables. This result indicates that about 35.3 percent disequilibrium in the growth model is corrected within a year.

The short run results further suggest that economic growth in the previous year had positive and statistically significant impact on its current value. There is also evidences that manufacturing sector FDI and trade openness exert positive and significant impact on

economic growth after the second period in the short run. By implication, 1 percent rise in real GDP growth in the previous period pushes real GDP growth in the current period by 0.91 percent, while the same change in manufacturing sector FDI in the second period will cause growth to rise by 0.73 percent. Also 1 percent rise in trade openness will lead to 0.76 percent increase in economic growth after the second period.

V DISCUSSION OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

Discussion of Findings

The findings of the study have been discussed in this section in order to integrate the present study into the existing economic literature. One important finding of the study is that there is significant contribution of manufacturing sector FDI to economic growth in Nigeria. This is rather surprising considering that FDI flow into Nigeria has always been recorded largely in the primary sector. However, a possible explanation of the significant contribution of manufacturing sector FDI to economic growth could be found in the aggressive policy of successive governments in recent time to devise measures that would enhance ease of doing business.

Another important finding of the study is that financial development has a significant role in the FDI growth relationship in Nigeria. Evidently, sound financial institutions are *sine quonon* for FDI to have anticipated effect on economic growth. Sound financial system would boost prospective investor confidence. Investors will be sure that their money is safe with any bank of their choice since the system is highly regulated. For some time now, Nigerian financial system has undergone some reforms. Emphasis has been laid onthe safety and confidence of investors. The monetary authorities are doing much in this regard. Sharp practices in the system are being curtailed. These may be some of the explanations why the role of financial development in the FDI growth relationship in Nigeria is positive and statistically significant. Third, institutional quality has no significant role in the FDI growth relationship in Nigeria. This is not surprising considering the fact that Nigeria is weak on institutions. It is awell-known facts that corruption is endemic in Nigeria, property rights are flouted at will, rule of law is almost nonexistent and the legal system is overly manipulated. Our results are in line with Fratzscher and Bussiere (2004) who has stressed the importance of domestic institutions, the size of FDI and the financial openness in boosting economic growth.

Finally, there is the finding that institutional quality in Nigeria is not conducive for harnessing manufacturing sector FDI to contribute significantly to economic growth. This has come more in expectation. The role of institutional framework in the progressive transformation of a society is a matter of fact. The governance structure in Nigeria is characterized by the prevalence of weak institutions. High incidence of corruption, bureaucratic red tapism and bottleneck, managerial ineptitude, official misconduct, and gross act of indiscipline, etc are some of the vices that have eroded the quality of institutions in Nigeria. There is no gainsaying that weak institutions cannot provide support for the nurturance of an economy to sustainable growth.

Conclusions

It can be safely concluded that the potential of the manufacturing sector FDI to foster growth in the recent time has increased due to the improvement in business conditions in the country, but has continued to diminish on account of poor institutional quality. A possible deduction from this generalization is that the potential or capacity output is less than that required to achieve maximum profit. The relocation of large number of MNCs from Nigeria to neighbouring countries is a direct consequence of this development and has posed serious challenges to the unincorporated operators in the manufacturing sector. Thus, the study clearly depicts the country's manufacturing sector as a giant enterprise with low level of interdependence between corporate managers and unincorporated operators (MSMEs). In this sense, it could be reasonably inferred that the study has presented a novel approach to maintaining proper linkages between MNCs and MSMEs in Nigeria.

Recommendations

The positive impact of manufacturing sector FDI on growth requires the federal government to provide conducive business environment in order to empower the unincorporated operators within the sector to share the benefits of FDI spillover effects. Policy for sustained FDI flows such as maintaining a stable Dollar/Naira exchange rate is required to encourage the continuous inflows of FDI. The poor institutional quality that cannot harness manufacturing sector FDI toward productive investment places high responsibility on the federal government to continue to pursue more vigorously the policy of privatization of public enterprises in order to free the Nigerian economy from substantial government control.

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