

Impact of Manufacturing Sector Foreign Direct Investment on 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 and Johansen Cointegration test. The study revealed that FDI manufacturing has significant 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 role in the FDI-growth relationship in Nigeria, while Institutional quality had no significant role in the FDI-growth relationship in Nigeria. It was recommended, inter alia, that Government spending should be targeted towards productive activities and improvement of infrastructures.

Keywords: Foreign Direct Investment, Nigerian Economy, Economic Growth, Nigeria

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, largest exporter of palm produce and largest exporter of palm oil. The agricultural sector contributed over 60% 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% of Nigeria's exports and 95% 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 in 1958 when its first oil field came on stream producing 5,100 barrels per day. Most interestingly, export of crude oil from Nigeria rose in 1972 and reached a peak in 1979. The upswing in the oil sector fortunes led to the gross neglect of the nonoil sector particularly agriculture, which had hitherto been the main stay of the economy. The oil boom brought about a great revenue turnaround and to international limelight as a major oil producing country in Africa and the world in general. It also brought about loss of indigenous occupations among local 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% of Nigeria's foreign exchange earnings and about 85% 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% per year, 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% of the total economy 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 entire promotion of the welfare of the citizenry. Most development theories propounded that economic growth can be achieved through the accumulation of physical and human capital. Hence, the accumulation of capital can come in the form of foreign direct investment (FDI). The Nigerian economy has been one of the highest recipients of capital inflow from the rest of the world (World Bank, 2018). The reasons behind this are the large market size of the economy, the level of its trade openness among others. But recent events in the country show that such benefit might not be sustained given the present socio-political upheaval from the sect of some anti-social group popularly known as the 'Boko Haram' in the country which is highly detrimental to the economy as well as the entire growth of the country. The level of Nigeria's share of FDI inflows to Africa fell from 35.3% in 1990 to 13.6% in 2000 then rose to 16.3% in 2005 and stood at 14.1% 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% 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.

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 researcher to attempt to have another look at the present state of Nigeria. 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 since 2009 till date, where indigenes are displaced from their homes and living in camps as Internally Displaced People in their countries. 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 more critically the security situation in Nigeria and its attendant impact on the institutional quality. Unless this impact is determined, it would be difficult to isolate the contribution of FDI to economic growth in Nigeria. This is more so 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 FDI and economic growth.

II. REVIEW OF RELATED LITERATURE

Mwilima (2003) described FDI as investment made to acquire a lasting management interest (usually at least 10% of voting stock) and acquiring at least 10% 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 Sauvart (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% of the ordinary shares or voting stock is the criterion for the existence of a direct investment relationship. Ownership of less than 10% 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 United States company is considered foreign-controlled, and therefore a subsidiary of a foreign-based multinational, if 10% or more of its stock is held by a foreign company; the idea is that 10% is enough to convey effective control. Similarly, a U.S.-based company is considered multinational if it owns more than 10% of a foreign firm. The controlling (owning) firm is called the multinational parent, while the “controlled” firms are called the multinational affiliates. When a U.S. firm buys more than 10 percent of a foreign firm, or when a U.S. firm builds a new production facility abroad, that investment is considered a U.S. outflow of foreign direct investment (FDI). The latter is called Greenfield FDI, while the former is called Brownfield FDI (Krugman, Obstfeld & Melitz, 2012).

The complexities involved in controlling and coordinating foreign affiliates that are situated far from headquarters and from each other, and the uncertainty of operating in unfamiliar environments that differ from each other and from the home environment culturally, legally, and politically, represent major challenges to firms. Failed international expansions such as Swissair (which collapsed as a result) and Gateway Computers (which retreated to its domestic U.S. market) serve as reminders of the difficulty of investing and operating abroad (Rowley, 2007).

The manner in which a firm chooses to enter a foreign market through FDI is referred to as entry mode. Entry mode examples include international franchising, branches, contractual alliances, equity joint ventures, and wholly foreign owned subsidiaries. While Damon’s restaurants, for example, used franchising to enter the Panama market, Lucent Technologies (now merged with the French firm Alcatel) preferred a contractual alliance (i.e., coproduction) to minimize investment risks when it entered this market. While U.S.-based General Electric and French company Snecma formed a joint venture to produce civilian jet engines, German-based DaimlerChrysler chose to establish a wholly owned subsidiary in Alabama to manufacture sport-utility vehicles. Once the entry

mode is selected, firms determine the specific approach they will use to establish or realize the chosen entry mode. Specific investment approaches include (a)

Greenfield investment (i.e., building a brand-new facility), (b) cross-border mergers, (c) cross-border acquisitions, and (d) sharing or utilizing existing facilities. ((Rowley, 2007).

Horizontal FDI occurs when the MNE enters a foreign country to produce the same product(s) produced at home (or offer the same service that it sells at home). It represents, therefore, a geographical diversification of the MNE's domestic product line. Most Japanese MNEs, for instance, begin their international expansion with horizontal investment because they believe that this approach enables them to share experience, resources, and knowledge already developed at home, thus reducing risk. If FDI abroad is to manufacture products not manufactured by the parent company at home, it is called conglomerate FDI. For example, Hong Kong MNEs often set up foreign subsidiaries or acquire local firms in Mainland China to manufacture goods that are unrelated to the parent company's portfolio of products. The main purpose is to seize emerging-market opportunities and capitalize on their established business and personal networks with the mainland that Western MNEs do not have. Vertical FDI occurs when the MNE enters a foreign country to produce intermediate goods that are intended for use as inputs in its home country (or in other subsidiaries') production process (this is called "backward vertical FDI"), to market its homemade products overseas, or to produce final outputs in a host country using its home-supplied intermediate goods or materials (this is called "forward vertical FDI"). An example of backward vertical FDI is offshore extractive investments in petroleum and minerals. An example of forward vertical integration is the establishment of an assembly plant or a sales outlet overseas (Rowley, 2007).

The liability of being foreign represents the costs of doing business abroad that result in a competitive disadvantage vis-à-vis indigenous firms. An example of this liability is the lack of adaptation to European customs, from transportation models to food, by the Walt Disney Company when establishing its first park in Europe, Euro Disney (renamed Disneyland Europe since then). Utilizing established competencies abroad in the same product or business as that at home helps the firm overcome the liability of foreignness and thus reduces the risks inherent in foreign production and operations. Horizontal FDI enables the MNE to quickly establish its competitive advantage in the host country because the company's key competencies, whether technological or organizational, are generally more transferable. Conglomerate FDI involves more difficulties in establishing market power and competitive position in the host country. These difficulties arise from the firm's inability to share distinctive competencies developed at home. (Rowley, 2007).

Foreign Direct Investment in West Africa

FDI to West Africa decreased by 21% 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% 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% 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% 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% of the total FDI stock in Nigeria in 1992, while manufacturing accounted for almost 50% and services close to 20%. Almost half of the FDI inflows into Egypt (48%) went into services in 1995, with a further 47 per cent going into manufacturing and a mere 4% 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).

III. REVIEW OF 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 have 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).

IV. 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 neo classical 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

$$Y = K^{\alpha}(A_t L)$$

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:

$$RGDPG = f(LAB, CAP, FDI) \tag{3.1}$$

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:

$$RGDPG = f(FDI, X) \tag{3.2}$$

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 devoted for 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:

$$\text{LnRGDPG}_t = \beta_0 + \beta_1 \text{LnRGDPG}_{t-1} + \beta_2 \text{LnFDIMAN}_{t-1} + \beta_3 \text{LnX}_{t-1} + U_t \tag{3.3}$$

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.

$$\text{LnRGDPG}_t = \beta_0 + \beta_1 \text{LnRGDPG}_{t-1} + \beta_2 \text{LnFDIMAN}_{t-1} + \beta_3 \text{LnEXR}_{t-1} + \beta_4 \text{LnFIDEV}_{t-1} + \beta_5 \text{LnINSQ} + \beta_6 \text{LnOPN}_{t-1} + U_t \tag{3.4}$$

A priori Expectation

$\beta_1, \beta_2, \beta_4, \beta_5, \beta_6 > 0$ while $\beta_3 < 0$,

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.

$$\text{LnRGDPG}_t = \eta_0 + \eta_1 \text{LnFDI}_t + \eta_2 \text{LnFIDEV}_t + \eta_3 \text{LnFDI}_t * \text{LnFIDEV}_t + Z1t \tag{3.5}$$

$$\text{LnRGDPG}_t = \gamma_0 + \gamma_1 \text{LnFDI}_t + \gamma_2 \text{LnINSQ}_t + \gamma_3 \text{LnFDI}_t * \text{LnINSQ}_t + Z2t \tag{3.6}$$

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.

V. RESULT PRESENTATION

Summary of Descriptive Statistics

RGDPG	FDIMAN	FDI	EXR	OPN	FIDEV	INSQ
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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.

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.

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

Note: *** denotes significant at 1% significance level. The test critical values in bracket [()]

Source: Authors' computation using EViews 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% 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, FDI manufacturing and financial development occurred between 1999 and 2010, which coincidentally 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.

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%	2.26	3.35
5%	2.62	3.79

*Note: ** denotes significant at 5% 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% 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 its fundamentals.

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 R² = 0.76 F-stat = 5.74 (0.004965)
DW = 1.89

*Note: ** and * denote significant at 5% and 10% significance level respectively*

Source: Authors' computation using EViews 10

The long-run estimate of the model is presented above. The estimated coefficient of FDI meant for manufacturing, financial development, institutional quality and trade openness are positive and significant at 5% significance level. On the other hand, the coefficient of exchange rate is negative and non-significant. The results indicate that 1% rise in FDI manufacturing, leads to 0.08% increase in real GDP growth. One percent increase in financial development leads to 0.183% increase in real GDP growth. One percent rise in institutional quality leads to 0.76% increase in real GDP. One percent rise in trade openness leads to 0.54% increase in real GDP. One percent rise in exchange rate leads to 0.019% 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% critical value. The adjusted R-square of 0.76 implies that about 76% 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.

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% significant level

Source: Authors' computation using EViews 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% 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 FDI manufacturing and trade openness exert positive and significant impact on economic growth after the second period in the short run. By implication, 1% rise in real GDP growth in the previous period pushes real GDP growth in the current period by 0.91%, while the same change in FDI manufacturing in the second period will cause growth to rise by 0.73%. Also 1% rise in trade openness will lead to 0.76% increase in economic growth after the second period.

VI. SUMMARY, CONCLUSION AND RECOMMENDATIONS

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.

An unrestricted ARDL model was used to investigate the impact of FDI manufacturing on economic growth in Nigeria. Two interaction regression models were also estimated to account for the role of financial development and institutional quality on

economic growth. The study revealed that FDI manufacturing has positive and significant impact on economic growth in Nigeria. The study also provided evidence of the role of financial development and institutional quality on economic growth, which suggests that the level of financial development has positive and significant role on economic growth in Nigeria, while Institutional quality has positive but no significant role on economic growth in Nigeria.

The positive impact of manufacturing sector FDI on growth requires the federal government to provide conducive business environment in order to empower the incorporated 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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DATA

Year	RGDPG (%)	FDIMAN	FDI	EXR (\$ to ₦)	OPN	FIDEV	INSQ
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1980	4.20	1503.9	737870000	0.5464	46.6789	13.4	0.697674
1981	-13.12	1705.7	542327300	0.6100	48.2933	15.3	0.610511
1982	-1.05	1922.5	430611300	0.6729	37.7485	15.6	0.589722
1983	-5.05	2128.1	364434600	0.7241	27.0372	16.1	0.579538
1984	-2.02	2109.3	189164800	0.7649	23.6089	17.3	0.609229
1985	8.32	2278.1	485581300	0.8938	25.9001	16.6	0.64621
1986	-8.75	2810.2	193214900	2.0206	23.7168	17.7	0.61816
1987	-10.75	3122.3	610552100	4.0179	41.6467	14.3	0.585501
1988	7.54	3637	37867100	4.5367	35.3120	14.6	0.576576
1989	6.46	5406.4	1884250000	7.3916	60.3918	12.0	0.628434
1990	12.76	6339	587882900	8.0378	53.0302	11.2	0.618168
1991	-0.61	8692.4	712373400	9.9095	64.8766	13.8	0.53825
1992	0.43	9746.3	896641300	17.2984	61.0310	12.7	0.516185
1993	2.09	12885.1	1345369000	22.0511	58.1098	15.2	0.512898
1994	0.90	14059.9	1959220000	21.8861	42.3089	16.5	0.465138
1995	-0.30	27668.8	1079272000	21.8861	59.7678	9.9	0.469534
1996	4.99	29814.3	1593459000	21.8861	57.6910	8.6	0.489498
1997	2.80	31297.2	1539446000	21.8861	76.8600	9.9	0.513563
1998	2.71	34503.9	1051326000	21.8861	66.1732	12.2	0.508073
1999	0.47	36282.1	1004917000	92.6934	55.8464	13.4	0.525652
2000	5.31	37333.6	1140138000	102.1052	71.3805	13.1	0.570335
2001	4.41	37779.6	1190632000	111.9433	81.8128	18.4	0.585321
2002	3.78	39953.6	1874042000	120.9702	63.3836	19.3	0.59108
2003	10.35	45719.4	2005390000	129.3565	75.2189	19.7	0.6637
2004	33.73	102995.8	1874033000	133.5004	50.7369	18.7	0.655369
2005	3.44	133894.5	4982534000	132.1470	50.7483	18.1	0.673564
2006	8.21	212729.4	4854417000	128.6516	67.3977	20.5	0.71458
2007	6.82	219512	6034971000	125.8331	65.0714	24.8	0.763221
2008	6.27	229764	8196606000	118.5669	65.8022	33.0	0.81622
2009	6.93	292296.5	8554841000	148.9017	64.5229	38.0	0.815185
2010	7.83	330828.1	6048560000	150.2980	64.5836	20.2	0.805736
2011	4.88	369359.7	8841953000	153.8616	64.3093	19.3	0.816123
2012	4.27	407891.3	7101032000	155.9803	64.0350	19.4	0.824664
2013	5.39	446423	5609000000	158.4603	63.7607	18.9	0.794299
2014	6.30	484954.6	4116968000	160.9402	63.4865	19.9	0.79227
2015	2.65	555617.7	4567987440	197.0000	63.2122	20.1	0.830127
2016	-1.61	567810.4	5348746860	253.49	63.4865	21.3	0.849697
2017	0.81	600123.2	6047583407	305	63.5962	23.1	0.835526
2018	1.90	602321.1	6443780200	323	64.4320	23.8	0.845213
2019	2.20	701013.3	6543256005	342	66.201	24.1	0.853210

Source: CBN, 2020

UNCTAD, 2020