

Inflows of Foreign Direct Investment in Selected Sectors and Economic Growth in Nigeria

Ekine, Data Irene, Nnadi, Emmanuel Uchenna

Department of Agricultural and Applied Economics, Faculty of Agriculture, Rivers State University, Port Harcourt, Nigeria

Abstract:-This study examined the inflows of foreign direct investment in selected sectors and economic growth in Nigeria from 1980-2015. The objectives of the study were to examine the impact of foreign direct investment in both manufacturing and telecommunication sectors on economic growth in Nigeria. A growth model was estimated via the co-integrated and ECM techniques to establish the relationship between the inflow of FDI in manufacturing and telecommunication sectors and economic growth (GDP). The variables were tested for stationarity via the ADF unit root test and found to be stationary. Also, the co-integration carried out using the Johansen co-integration technique showed that the FDI in both manufacturing and telecommunication sectors have a long run relationship with economic growth in Nigeria. The long run regression results depicted by the ECM reveal that there is a positive and significant relationship between foreign direct investment in telecommunication sector and economic growth. Also, foreign direct investment in manufacturing sector and economic growth were positively related. Thus, it was concluded that continuous inflow of foreign direct in manufacturing and telecommunication sectors has the tendency to induced Nigeria economic growth. Based on the findings, the study recommended the need for consistency in government policies directed specifically towards improving the business environment to attract foreign investors which will in turn impact positively on economic growth.

Key Words: Economic Growth, FDI, Inflows, Sectors, Manufacturing and Telecommunication

I. INTRODUCTION

The growth and development of any economy is usually seen in terms of sectors. These are primary, manufacturing and services sectors. Sustainable and improved productivity in the various sectors in the economy and their effects on macroeconomic goals have been very important issues over the decades. Thus, during the military and civilian administration, the government of Nigeria has taken a number of measures necessary to woo foreign investors into the various sectors of the Nigerian economy. These measures includes the abolishment of unfavourable laws that affect the growth of foreign investment, promulgation of investment law, several overseas tours for image laundry by the president, among others (Obayori, 2014).

Theoretically, foreign direct investment is expected to contribute to economic growth by providing much-needed capital in productive areas of the economy. In addition, Foreign Direct Investment is believed to generate additional impact through externalities in the form of technology

transfers and spillovers. The externalities may lead to improvements in productivity and efficiency in that foreign firm is more efficient than the domestic firms. Thereby, domestic firms can improve their productivity by copying the technology and management skills of the foreign firm as it penetrates to market.

An analysis of foreign direct investment inflow to the country so far have revealed that only a limited number of multinationals or their subsidiaries have made foreign direct investment in the country. For instance, the country has witnessed high inflow of FDI as a result of investment in the Global System of Mobil (GSM) telecommunication. The oil sector of the economy has also witnessed an increased level of FDI as evidenced by the increasing numbers and operations of oil Multinationals Corporation in the country. However, there have been a lot of controversies in the country over the effectiveness of foreign direct investment inflow in stimulating the rate of economic growth in Nigeria.

Therefore, a sustainable and regulated foreign investment is needed to boost the productive and absorptive capacity of the economy in order to correct the existing macroeconomic ills. In attempt to achieving the above, successive government of this country has adopted different policy measures and incentives to stimulate foreign direct investment inflow. In spite of these efforts the impact of foreign direct investment on macroeconomic aggregates, economic growth and balance of payment in general is still unimpressive and disappointing. Also, statistics from CBN (2013) shows that the combine effects of macroeconomic factors such as investment and others on economic growth have not been encouraging. Also, real gross domestic product has been on slight increase from ₦315, 460.08 Million in 1980 to ₦267.549.99 Million in 1990. Between 1991 and 2000, it rose from ₦265.379.14 million to ₦329.178.74 million. Thereafter it increased from ₦356, 994.26 million in 2001 to ₦902, 793.97 million in 2012. But the increase in GDP has not translated into increase employment, growth and development of the economy.

Moreover, with the high potentials of Nigeria; characterized by large market (large and virile population), natural resources endowment, arable agricultural land and cheap trained labour, to mention a few, available statistics unfortunately shows that the country has not benefited much from foreign capital inflows (Obayori, Obayori, Inimino and Tubotamuno, 2016). Similarly, Gbosi (2005) averred that the sectoral impact of foreign direct investment on the economy of a country varies

from sector to sector. In his words, foreign direct investment in the manufacturing sector has much larger potential to affect the recipient economy as the linkages to the recipient economy are better defined than foreign direct investment in the primary sector. This is because; foreign firms in manufacturing sector invest rather than export to a country for either efficiency-seeking or market-seeking or a combination of both. It usually generates significant employment and provides training. Foreign firm usually uses some level of local intermediate products. Hence, foreign direct investment has significant horizontal and backward linkages.

Given the assertion above, it is therefore pertinent to provide answer to these questions; what is the impact of the inflow of foreign direct investment in the service sector (telecommunication) on economic growth in Nigeria? What is the impact of the inflow of foreign direct investment in the manufacturing sector on economic growth in Nigeria? It is the answer to these questions and many more that prompted an empirical analysis of the inflows of foreign direct investment in selected sectors on economic growth in Nigeria.

The remaining parts of this research work were structured into literature review, methodology, results and discussion as well as conclusion and recommendations.

II. LITERATURE REVIEW

2.1 Theoretical Framework: The Neoclassical Theory of Investment

The Neoclassical theory forms the theoretical framework of this work. The neoclassical economists argue that foreign direct investment influences economic growth by increasing the amount of capital per person. However, because of diminishing returns to capital, it influences short run economic growth; it does not influence long-run economic growth. Bengos and Sanchez-Robles (2003) asserted that even though foreign direct investment is positively correlated with economic growth, host countries require minimum human capital, economic stability and liberalized markets in order to benefit from long-term foreign direct investment inflows.

Growth in neoclassical theory is brought about by increases in the quantity of factors of production and in the efficiency of their allocation. In a simple world of two factors (labour and capital), it is often presumed that low-income countries have abundant labour but scarce capital. This situation arises owing to shortage of domestic savings in these countries, which places constraint on capital formation and hence growth. Even where domestic inputs in addition to labour are readily available and hence no problem of input supply, increased production may be limited by scarcity of imported inputs upon which production processes in low-income countries are based. International capital flows (ICFs) readily become an important means of helping developing countries to overcome their capital shortage problems. One of the components of international capital flows is foreign private direct investment (FDI). Other components are Official flows from bilateral

sources (e.g developed and OPEC countries), multilateral sources (such as the World Bank and its two affiliates, the international Development Association (IDA), and the international finance corporation (IFC), on concessional and non-concessional terms and Commercial Bank loans (including export credits).

Economic theory suggests that in free market economies capital will move from countries where it is abundant to countries where it is scarce. This pattern of movement will be informed by the returns on new investment opportunities, which are considered higher where capital is limited. The resultant capital relocation will boost investment in the recipient country and, as Summers (2000) suggests, brings enormous social benefits. Underlying this theory is the premise that returns on capital decreases as more machinery is installed and new structures are built, although, in practice this is not always or even generally true.

2.2 Empirical Literature

In Nigeria, there have been very few empirical studies regarding the sectoral impact of foreign direct investment on selected macroeconomic aggregates. Some of these empirical studies are examined. Obayori, Obayori, Inimino and Tubotamuno (2016) examined the sectoral inflow of foreign direct investment and economic growth in Nigeria. A growth model was estimated via inflow of FDI to manufacturing sector, telecommunication sector and oil sector. The model was tested for stationarity and Johansen co-integration. The study found that continuous inflow of foreign direct investment in manufacturing, telecommunication and oil sectors have a robust impact on Nigeria's economic growth. Thus, the alternative hypothesis that there is a long run relationship between gross domestic product (GDP) and sectoral inflow of FDI was accepted. Meaning that continuous inflow of foreign direct investment in manufacturing, telecommunication and oil sectors has the tendency to induce Nigeria economic growth.

Saibu and Keke (2014) examined the impact of foreign private investment on economic growth by employing Cointegration and Error Correction Mechanism (ECM) techniques. The findings indicated that a substantial proportion of capital inflow were not productively invested however the relatively small proportion (22%) of net capital inflows invested, contributed significantly to economic growth in the Nigerian economy. The political environment was found to be unfavorable and overwhelmed the positive impact of foreign private investment.

Lawrence and Mohammed (2014) investigated the nature of foreign direct investment and its impact on sustainable economic growth in Nigeria economy for the period which spanned between 1986 and 2009. The study used co-integration and Error Correction Mechanism (ECM) to determine the relationship between FDI, its components and economic growth. The study found that continuous inflow of foreign direct investment in mining and quarrying,

telecommunication, building and construction, trading and business and agricultural sectors have a robust impact on Nigeria’s economic growth.

Cookey, Otto and Adeneye (2014) examined the effect of foreign direct investment on economic growth in Nigeria between 1980 and 2012, using annual time series data obtained from secondary sources. The econometric techniques of Ordinary Least Squares (OLS) and Cointegration were used to analyze the data. The results of the analysis revealed that FDI inflow does not significantly impact on economic growth in Nigeria.

Olokoyo, (2012) examined the effects of foreign direct investment (FDI) on the development of Nigerian economy with the use of Ordinary Least Square (OLS) regression technique. The Cochrane-Orcutt iterative method was also used to correct for autocorrelation. The regression analysis results evidently do not provide much support for the view of a robust link between FDI and economic growth in Nigeria as suggested by extant previous literatures.

Ray (2013) analyzed the causal relationship between foreign direct investment (FDI) and economic growth in India for the period, 1990 to 2011. The empirical analysis on basis of ordinary Least Square Method suggested that there is positive relationship between foreign direct investment (FDI) and economic growth.

Okon, Augustine and Chuku (2012) empirically investigated the relationship between foreign direct investment and economic growth in Nigeria between 1970 and 2008. The study revealed that there is bi-directional relationship between FDI and economic growth in Nigeria and the single and simultaneous equation systems showed that FDI and economic growth are jointly determined in Nigeria and there is positive feedback from FDI to growth and from growth to FDI.

Fasanya (2012) examined the impact of foreign direct investment on economic growth in Nigeria for the period 1970-2010 making use of annual time series data through a

neo-classical framework. The findings showed that foreign direct investments have positive impact on economic growth in Nigeria and so does domestic investment. Also, Louzi and Abadi (2011) focused on the FDI-led growth hypothesis in the case of Jordan using time series data from 1990 to 2009. The econometric framework of co-integration and error correction mechanism was used to capture two way linkages between variables interest. The findings indicated that FDI inflows do not exert an independent influence on economic growth. However, domestic investment has a positive impact on economic growth.

III. METHODOLOGY

This study employed secondary data connecting to the dependent and independent variables, from 1980 to 2015. The data were sourced mainly from Central Bank of Nigeria statistical bulletin and National Bureau of statistics. Thereafter, the data were analyzed using the Error Correction Modeling techniques. Also, the pre estimation techniques adopted in the study include unit root test to test for stationarity of the variables and co-integration test proposed by Johansen (1988) to examine the long run relationship among the variables.

Model Specification

The model for the study was cast in line with $GDP = f(FDIM, FDIT, FDIO)$ proposed by Obayori, Obayori, Inimino and Tubotamuno (2016). The model was modified, thus the new model was specified as:

$$GDP = f(FDIT, FDIM) \tag{1}$$

$$GDP_t = \alpha_0 + \alpha_1 FDIT_t + \alpha_2 FDIM_t + u_t \tag{2}$$

α_0 is the constant term, α_1 and α_2 are the slope parameters, “t” is the time trend, and “e” is the random error term. On the apriori, it is expected that; $\alpha_1 > 0, \alpha_2 > 0$

IV. RESULTS AND DISCUSSION

Table 1: Unit Root Test of Stationarity Result

Variables	ADF Test	Critical Value			Order of Integration
		1% critical value	5%critical value	10%critical value	
GDP	-6.878544	-3.639407	-2.951125	-2.614300	1(1)
FDIM	-5.452694	-4.252879	-3.548490	-3.207094	1(1)
FDIT	-5.674128	-3.653730	-2.951125	-2.614300	1(1)

Source: Authors’ Computation from (E- view 9.0)

The result of the augmented dickey fuller test to determine the stationarity of series was presented in Table 1. The result showed that that all the variables are homogenous of order one. Meaning that they were stationary at first difference. This

is because the ADF statistic was greater than the critical value at 1%, 5% and 10% levels. Since the variables were stationary at first difference to prevent spurious regressions, the best

regression results were obtained when the variables were used in model estimation.

Table 2: Co-integration Result for the Estimated Model

(Trace Statistics) k=3, r=2	Critical Values (5 %)	Prob
45.60300	29.79707	0.0004
21.62651	15.49471	0.0052
1.829857	3.841466	0.1761

Source: Authors' Computation from (E- view 9.0)

Note: r= number of co-integrating vectors and k = number of lags in model.

The results of the Trace statistics revealed that there are two co-integrating equations in the model. Thus, the alternative hypothesis of the existence of co-integration among the variables was accepted. This is because two trace statistics values out of the three equations were greater than the 0.05 (5%) critical value. Therefore, a unit rise in foreign direct investment in both manufacturing and telecommunication sectors will impact on economic growth in Nigeria during the period of study. Since the series are co-integrated, then, there is a long-run equilibrium relationship among the variables in the output model.

Table 3: Error Correction Result

Dependent Variable: DLOG(GDP)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.064299	0.015470	4.156341	0.0004
DLOG(GDP(-1))	0.178256	0.204894	0.869993	0.3941
DLOG(GDP(-2))	-0.143514	0.159898	-0.897537	0.3796
DLOG(GDP(-3))	-0.019920	0.023581	-0.844734	0.4078
DLOG(FDIM(-3))	0.048248	0.037203	1.296889	0.2087
DLOG(FDIT(-3))	0.068535	0.031260	2.192419	0.0398
ECM(-1)	-0.225719	0.087432	-2.581642	0.0174
R-squared	0.506935	Mean dependent var		0.053143
Adjusted R-squared	0.272142	S.D. dependent var		0.043294
F-statistic	2.159074	Durbin-Watson stat		2.247520
Prob(F-statistic)	0.066003			

Source: Authors' Computation from (E- view 9.0)

The parsimonious Error Correction Model (ECM) result presented in Table 3 specified that the coefficient of ECM was -0.225719 and statistically significant. Thus, the speed of adjustment of is 22.5719%. Also, the Durbin Watson (DW) value of 2.24 which is not too far from 2.0 according to rule of thumb, suggested a level of lesser serial auto correlation in the model. Meaning that the successive values of the error term are serially not correlated. R-Squared (R^2) value of 50%, suggested that the estimated ECM model is satisfactory. Thus, 50% changes in the GDP were brought about by the variation in both FDI in manufacturing and telecommunication sectors. Also, the significant of the overall model represented by f-statistic value at 2.15reinforced the good fit of the model indicated by R^2 . This implies that the overall regression result is fair for policy formulation.

Meanwhile, the result in Table 3 showed that the coefficient of foreign direct investment in the manufacturing sector (FDIM) is positively signed with economic growth but not significant at 5% level. Meaning that a percentage increase in foreign direct investment in the manufacturing sector (FDIM) will cause an increase in economic growth by 0.048248%. Also, the t-statistic value of 1.2968 with the probability value

of `0.20 which is greater than the 0.05% level the shows that there is no significant relationship between foreign direct investment in the manufacturing sector and economic growth in Nigeria during the period of study. Thus, the null hypothesis was accepted.

Also, the coefficient of foreign direct investment in the telecommunication sector (FDIT) is positively signed with economic growth and significant at 5% level. Meaning that a percentage increase in foreign direct investment in the telecommunication sector will cause an increase in economic growth by 0.068535%. Also, the t-statistic value of 2.192 with the probability value of 0.03 which is less than the 0.05% level the shows that there is a significant relationship between foreign direct investment in the telecommunication sector and economic growth in Nigeria during the period of study. Thus, the alternative hypothesis was accepted.

V. CONCLUSION AND RECOMMENDATIONS

This study examined the inflows of foreign direct investment in selected sectors and economic growth in Nigeria from 1980-2015. This study is essential because it examined the

sectoral impact of foreign direct investment on economic growth in Nigeria. From the literature reviewed, it was discovered that most countries strive to attract the inflow of foreign direct investment due to the fact that the FDI has the potential to improve the growth of the economy. Nigeria in quest for growth and development joined the rest of the world in seeking the inflow of FDI as it helps the domestic resources of the economy to enhanced economic growth.

An augmented growth model was estimated via the co-integrated and ECM techniques to establish the relationship between the inflow of FDI in manufacturing and telecommunication sectors and economic growth (GDP). The variables were tested for stationarity via the ADF unit root test and found to be stationary. Also, the co-integration carried out using the Johansen co-integration technique shows that the FDI in both manufacturing and telecommunication sectors have a long run relationship with economic growth in Nigeria. The long run regression results depicted by the ECM reveal that there is a positive and significant relationship between foreign direct investment in telecommunication sector and economic growth. Also, foreign direct investment in manufacturing sector and economic growth were positively related. Thus, it was concluded that continuous inflow of foreign direct in manufacturing and telecommunication sectors has the tendency to induced Nigeria economic growth. Based on these findings, it was recommended that since foreign direct investments in manufacturing and telecommunication sectors induced economic growth in Nigeria positively, there is therefore the need for government to properly channel investment in these sectors into the mainstream of the economy.

Also, there is the need for continuity and consistency in government policies directed specifically towards improving the business environment to attract foreign investors which will in turn impact positively on economic growth. One way to improve the business environment is by conscious provision of necessary infrastructure facilities such as good electricity, which will lower the cost of doing business in Nigeria.

REFERENCES

- [1]. Bengos, M. & Sanchez-Robles, B. (2003). Foreign Direct Investment, Economic Freedom and Growth: New Evidence from Latin America. *European Journal of Political Economy*, 19(3), 529–45.
- [2]. Central Bank of Nigeria (2013). Financial Reports and Statistics.
- [3]. Central Bank of Nigeria (2015). Statistical Bulletin Various Issues.
- [4]. Cookey, A.E, Otto, G. & Adeneye, A. (2014). Foreign Direct Investment and Economic Growth in Nigeria. *West African Journal of Business and Management Sciences, Faculty of Business Administration, Imo State University, Owerri. Nigeria Edition* 3(3)
- [5]. Fasaya, I. O. (2012). Capital Flows- Growth Nexus in Nigeria: Has Foreign Direct Investment Played A Role in Accelerating Economic Growth? *Journal of Sustainable Development in Africa*, 14 (8), 34 – 54.
- [6]. Gbosi, A.N., (2005). *Fundamental of International Economics and Finance*. 2nd ed. Abakaliki: Pack Publisher, 165-182.
- [7]. Johansen, S. (1998). Statistical Analysis and Cointegrating Vectors. *Journal of Economic Dynamics and Control*, 12(2-3), 231-254.
- [8]. Lawrence, E.I & Mohammed, I. (2014). The Nature of Foreign Direct Investment and Its Impact on Sustainable Economic Growth in Nigeria. *Journal of Economics and Development Studies*, 2(1), 201-232
- [9]. Louzi , B. M. & Abadi, A. (2011). The Impact of Foreign Direct Investment on Economic Growth in Jordan. *IJRRAS* 8 (2), 253 – 258.
- [10]. Obayori, J.B. (2014). Real Sector Performance and Selected Macroeconomic Aggregates in Nigeria. Unpublished M.Sc. Thesis Submitted to School of Graduate Studies University of Port Harcourt, Nigeria
- [11]. Obayori, J.B, Obayori, E.L., Inimino, E.E & Tubotamuno, B. (2016). Sectoral Inflow of Foreign Direct Investment and Economic Growth in Nigeria: A Co-integration Analysis. *International Journal of Current Research*. 8(3), 27806-27811
- [12]. Okon, U. O., Augustine, O. J. & Chuku, A. C (2012). Foreign Direct Investment and Economic Growth in Nigeria: An Analysis of the Endogenous Effects. *Current Research Journal of Economic Theory* 4(3), 53-66
- [13]. Olokoyo, F.O. (2012). Foreign direct investment and economic growth: a case of Nigeria. *Bvimsr's Journal of Management Research*, 4(1), April 2012
- [14]. Ray, S. (2013). Impact of Foreign Direct Investment on Economic Growth in India: A Cointegration Analysis, *Advances in information Technology and Management (AITM)*, 2(1), 187–201.
- [15]. Saibu, O. & Keke, N. A. (2014). Real Output Effects of Foreign Direct Investment in Nigeria. *Journal of Behavioural Economics, Finance, Entrepreneurship, Accounting and Transport*, 2 (1), 1-7. DOI: 10.12691/jbe-2-1-1
- [16]. Summers, L. H. (2000), Taxation and corporate investment: A q-Theory Approach. *Brookings Papers on Economic Activity*, 1, 67-127.