

An Investigation of the Impact of Foreign Direct Investment on Economic Growth in Nigeria

Abu Maji^{1,*}; Achegbulu Joseph Odoaba²

¹Department of Economics, Kogi State University, Anyigba, Nigeria

²Department of Public Administration, Kogi State University, Anyigba, Nigeria

Email: drjachegbulu@yahoo.com

*Corresponding author.

Address: Department of Economics, Kogi State University, Pmb 1008, Anyigba, Kogi State, Nigeria

Email: majiabu2011@yahoo.co.uk

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Abstract

This paper posits to investigate the impact of foreign direct investment on economic growth in Nigeria. A study of this nature is necessary because foreign direct investment is an important component of private investment which is widely believed to be the engine of economic growth in any modern economy. In order to investigate the impact of foreign direct investment on economic growth in Nigeria and the causal relationship between them, liner regression and granger causality test were used. The data used were from central bank of Nigeria statistical bulletin (2006) and national account of Nigeria (2007). The study has shown that foreign direct investment has a positive impact on gross domestic product in Nigeria and we therefore accept the alternative hypothesis. It is recommended that there is the need to put in place concrete policies to engender a positive and competitive enabling environment that would attract more foreign investors. There must also be relentless wars against corruption and insecurity in order to give confidence to investors.

Key words: Domestic investment; Foreign direct investment; Capital formation and economic growth

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INTRODUCTION

The acutely low level of domestic investment makes it compelling to attract significant foreign direct investment to augment aggregate investment. One of the reasons for less than satisfactory economic growth in countries of sub-Saharan Africa is the low level of domestic investment. In Nigeria, gross domestic investment as percentage of gross domestic product has been on (lie decline in recent limes. For instance, gross domestic investment as percentage of GDP which was 22.8 percentage in the early 1980s fell to 16.4 percent in 1986 and 10.7 percent in 1993. It is worrisome to note that the percentage of gross domestic investment to GDP which was 16.4 in 1986 declined to as much as 7.5 in 1996. In contrast to the declining situation in Nigeria, gross domestic investment as percentage of GDP in Asia and Latin American countries have been on the increase. For example, gross domestic investment as percentage of GDP in Singapore was 38.7 percent and rose to 46.3 in 1996.

One of the major pivots of the Nigeria structural adjustment programme (SAP) as is the case with other countries carrying out similar programme is the acquisition of foreign investment. The main reasons for encouraging foreign investment arc the acquisition of investment capital and technology for industrialization, creation of productive capacity and consequently the generation of domestic employment. These remain valid and undisputable.

The flow of foreign capital had recently been marked by a sharp expansion in net and gross capital flows and a substantial increase in the participation of foreign investors and foreign financial institutions in the financial market of developing countries. (World Bank, 1997). While this had been found to be true for Asian and Latin American countries, the same cannot be said for African countries, Nigeria in particular. While, foreign direct private investment flow to developing countries have been

on the increase since 1986, with average of 30 percent of the total resources flow between 1986 and 1994, a greater proportion of these flows have been to emerging market of Asia and North America, For example, in Nigeria the percentage of foreign direct investment to gross domestic product was 13.5 percent in 1986 but unfortunately, it declined to 6.2 percent in 1995 and 4.5 percent in 1996. However, as at 2006, the percentage stood at 16.3 percent. In an attempt to attract foreign capital, Nigeria's investment policies have witnessed significant changes since the introduction of structural adjustment programmed (SAP) in 1986. Host countries stand to derive a lot of benefits from foreign direct investment. In spite of such benefits, Mishra et' al (2001) revealed that whereas foreign direct investment has been associated with higher growth in some countries, it has also been associated with higher incidence of crises. The possibilities of achieving rapid and sustained development through effective use of foreign direct investment have been applied and demonstrated by the Asian Tiger economies of Singapore, Hong Kong and Thailand. In these countries, substantial increase in investment financed by foreign direct investment has led to rapid growth of gross domestic product (GDP). Not only has economic growth been accelerated by foreign direct investment but the capacity of these economies to sustain further development from their resources has been significantly increased.

With all these in view, it becomes imperative to investigate the impact of foreign direct investment on economic growth in Nigeria' and to determine the causal relationship between them.

In Nigeria as in most of sub- Saharan Africa, the 1980s and early 1990s have been period marked by attempts to respond to series of external and internal economic shocks. The net flow of foreign direct investment into the countries seemed to be very minimal in spite of the arrays of incentives. The factors responsible for the unsatisfactory performance can be internal and external. The external environment was characterized by sharp declines in the price of crude oil and substantial losses in terms of trade. Also, there was a rapid rise in the net resources out flow implicit in the large financial transfers associated external debt repayments Adeyemo and Iwayemi (1995). The internal factors are macroeconomic failures and poor management of resources.

The decline in the volume and quality of direct foreign investment in Nigeria and low rate of economic growth registered since the early 1980s raise a lot of concern. Efforts by the government to attract significant foreign direct investment have not yielded the expected results. There was also the existence of deep rooted development constraints; human capital development and inadequate infrastructures which constituted major impediments for private sectors development. Furthermore, ethnic conflict, political instability, poor governance and corruption have aggravated Nigeria's economic performance.

It is widely believed by development economists that economic growth depends critically on both domestic and foreign investments. It is also believed that the rate of inflow of foreign investment depends on the rate of economic growth. In Nigeria, a lot of studies have been conducted of the relationship between investment and growth. From the foregoing discussions, it is imperative to address some central issues about the impact of foreign direct investment on economic growth in Nigeria and to ascertain the link between them. The following questions therefore arise:

- i. What is the impact of foreign direct investment on economic growth in Nigeria?
- ii. To what extent has foreign direct investment been attracted to Nigeria?
- iii. What impacts have oilier factors on economic growth in Nigeria?
- iv. How effective have the policy measures so far adopted towards boosting foreign direct investment in Nigeria?

This study is therefore meant to:

- i. Ascertain the impact of foreign direct investment on economic growth in Nigeria.
- ii. To measure the causal relationship between foreign direct investment and economic growth in Nigeria
- iii. To make recommendations that can help to attract more foreign direct investment to Nigeria.

The study is divided into sections. Section one is the introduction to the study while section two deals with review of literature. Section three is about methodology and specification of the model, while section four deals with presentation and analysis of results. The last section is about conclusion and recommendations.

1. THEORETICAL AND EMPIRICAL ISSUES

Theoretical and empirical literatures are abounding on the impact of investment on economic growth in both developed and less developed countries. Development economists have ascribed a positive and significant role of foreign direct investment in the development process of less developed countries (EDCS). Foreign direct investment has been regarded as an additional factor of production which could relax both the saving and foreign exchange constraints. Planned investment has been persistently known to be greater than planned savings. This tends to create a saving gap required to be filled by foreign resources. Besides the savings gap, the existence of trade or foreign exchange gap is one of the problems confronting a developing country Chenery (1970).

Oloponia (1983) confirmed that growth model such as that by Harrods – Dormer implied that infusion of resources (capital) was necessary for economic growth in developing countries since capital was scarce.

1.1 Harrod-Domar Model

The Harrod-Domar model is a combination of the classical and Keynesian theories of growth and recognizes the strategic importance of investment in the growth process. The model is used to estimate investment required to achieve a target rate of growth in output. In practice, emphasis is on the additional capital that is required to produce an additional unit of output. The formal Harrod-Domar growth model is specified as follows: $DY/Y = s/k$ or $(g = s/k)$ or $(g = sp)$.

Where $g = Dy/y$; the growth rate of national output

S = the saving ratio

K = capital output ratio

$P = 1/k$; the reciprocal of the productivity of capital

It thus utilizes the marginal capital output ratio

1.2 The Two-Gap Model

This model follows from the formal Harrod-Domar growth model which states that the growth rate of national output equal the saving ratio multiplied by the reciprocal of the productivity of capital.

Considering the impact of the external sector given that most economies are open. It is important to examine the impact of foreign borrowing or grants on growth. Thus, we have:

$$Dy/m = m$$

$$M/y - i$$

$$g = im$$

Where m is the incremental output- import ratio and is the ratio of investment goods imports to income.

The specification of the two-gap model is based on the assumption that growth requires investment goods, which may either, be provided domestically or imported. The domestic provision requires savings while the external one requires foreign exchange.

Therefore, if investment goods can only be provided from abroad, there is always a minimum amount of foreign exchange required to sustain the growth process. If this minimum is unavailable, then growth is constrained.

Growth in the neoclassical theory is brought about by increase 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. International capital flows therefore readily become an important means of helping developing countries to overcome their capital shortage problem. This capital movement from developed countries to developing countries according to Summers (2000) brings enormous social benefits.

Although, economic theory and empirical investigations have much to say about where foreign direct investment may flow, but the theory and the evidence are less definitive about the impact of such flows. Foreign direct investment is supposed, at least theoretically, to be positive-sum game Julius, (1991).

Economic growth results from accumulation of factors of production or from improvement in technology or both. Economic theory provides two approaches to study the link between foreign direct investment and economic growth of both host countries. The first approach is rooted in the standard theory of international trade and dates back to MacDougall (1960). It involves a partial equilibrium comparative static approach put in place to examine how marginal increments in investment from abroad are distributed. From this approach, it is believed that inflows of foreign capital whether in the form of foreign direct investment or portfolio capital will raise the marginal product of labour and reduce the marginal product of capital in (the host country). Beyond this, MacDougall argues that foreign direct investment may be connected to other potentially important benefits. The second approach to study the link between foreign direct investment and economic growth according to MacDougall is the theory of industrial organization pioneered by Hymer (1960). This approach begins with an examination of why firms undertake investment abroad to produce the same goods as they produce at home. Kindleberger (1966) argued that for direct investment to thrive there must be some imperfections in market for goods and factors, including technology or some interference in competition by government or by firms, which separate markets. This being so, to be able to invest in production in foreign markets, a firm must possess some assets that can be used profitably in the foreign affiliates. Firms investing abroad therefore represent something more than a simple import of capital into a host country to include diffusion of technology and knowledge, as well as impacting on market structure and competition in host economies. This sums up the indirect effects of foreign direct investment flows.

Norbakhsh et al (2001) observed that, the less developed a country is, the greater are usually the expectations it places in foreign direct investment to alleviate its resource and skills constraints. Incidentally, Saggi (2001) observed that there are several important caveats to the expectation of positive impact of foreign direct investment on host countries. First, a positive correlation between the extent of foreign direct investment and economic growth in cross-country regressions may simply reflect this fact: those countries that are expected to grow faster attract FDI because it yields higher returns there. Second, multinational corporations are in the habit of raising the required capital in the host country. When this is done, capital inflows with FDI may not be substantial after all. An optimistic view of FDI would then be restricted to technology transfer and or spillover as the likely mechanism through which FDI may affect growth. Along this line, Romer (1993) argues that foreign direct investment can have a positive effect on growth in developing countries by helping them bridge their resource gap.

The empirical result of De proris and Driftfield (2006) showed that inward investment in the United Kingdom docs act to increase productivity in the domestic sector. The theory of FDI suggests such effect is due to superior foreign technology being transferred to domestic firms, though only to those in a position to assimilate foreign technology.

Osaghae and Amenkhieman (1987) showed that not only did Nigeria’s revenue from oil export increased between 1970 and 1982, but that her total foreign debts and foreign direct investment grew substantially during the same period. They then investigated whether foreign capital inflows, oil revenue and foreign borrowing had any positive impact on economic growth in Nigeria. Their study showed that there was a positive relationship between foreign direct investment and gross domestic product, [they concluded that the greater the inflow of FDI the better the performance of the economy.

Edozien (1968) stresses the linkages generated by foreign investment and their impact on Nigeria’s economic development. Specifically, he contends that FDI induces the inflow of capital, technical know-how and managerial capacity and all of which will accelerate the pace of economic development, while stressing the pains and uncertainties that come with it. Furthermore, he observed that foreign investment could be counter-productive if the linkages they spur are neither needed nor affordable by the host country.

Chete (1997) developed a model on the determinants of FDJ in Nigeria. The results obtained revealed that their coefficients all have their hypothesized signs and are statistically significant at 5% level. Specifically, inflation rate, external debt burden, gross capital formation, coup de’tat have negative coefficients an indication of a negative relationship between the variables and foreign direct investment.

Garba (1997) conducted a study on foreign direct investment and economic growth in Nigeria for the period (1970 - 1994). His results showed that the coefficient of FDI was positive with high values, indicating the sensitivity of FDI to GDP. In his second model, the result obtained showed a good measure of the elasticity of foreign direct investment with respect to change in gross domestic product.

Andeyantso (2006) in his study of the effects of foreign direct investment on economic growth in Nigeria, the empirical results show that there is a negative relationship between the two variables.

Obadan (1999) conducted a granger causality test to examine the causal relationship between gross domestic investment and economic growth in Nigeria for the period (1975 - 1996). Te result showed that the relationship between gross domestic investment and economic growth is unidirectional, running from investment to growth. Evidence from the findings gives credence to the crucial role of capital formation in the growth process.

2. METHODOLOGY AND MODEL SPECIFICATION

The ordinary least squared methods of econometric will be used in testing the relationship between foreign direct investment and economic growth in Nigeria for the period of 1986 – 2006 and the causal relationship between the variables using the granger causality test.

2.1 Model Specification

2.1.1 The Granger Causality Test

To explain the granger causality test, we often asked questions such as “is GDP that causes FDI or is FDI that causes GDP?” The granger causality test to be used in this research work is specified as follows:

$$GDP = \sum \alpha_i FDI_{t-3} + \sum \beta_j GDP_{t-3} + U_{1t} \quad (1)$$

$$FDI = \sum \lambda FDI_{t-3} + \sum \delta_i GDP_{t-3} + U_{2t} \quad (2)$$

α , β , λ and δ are parameters to be estimated, and U_{1t} and U_{2t} are the error term.

2.1.2 Ordinary Least Squared Regression

In this study, gross fixed capital formation is proxies by the annual gross domestic investment.

The level of gross domestic product can be written as:

$$\text{Log GDP} = \log \alpha + \beta_1 \log FDI + \beta_2 \log \text{TEXP} + \beta_3 \log \text{GFCF} + U \quad (3)$$

Where

GDP = gross domestic product

FDI= foreign direct investment

TEXP-total export

GFCF = gross fixed capital formation proxies for gross domestic investment.

U= error term.

The parameters to be estimated are α , β_1 , β_2 and β_3 and they are all expected to be positive.

3. PRESENTATION AND ANALYSIS OF RESULTS

Table1
Granger Causality Results

Null hypothesis	F- statistics	Probability
FOI does not granger cause	2.21285	0.18681
GDP does not granger	7.14200	0.01478

When the probability value is less than 0.05, we accept the null hypothesis that FDI does not cause GDP. The table shows that the probability value of 0.18681 is more than 0.05 but the probability value of 0.01478 is less than 0.05 means that GDP grangers cause FDI for the period 1986 - 2006 while, the F- statistics value of 7.14200 shows a strong feedback effect from GDP to FDI.

OLS Regression Result

The regression result is as follows:

$$\text{LogGDP} = 1.033376 + 0.088995\text{logFDI} + 0.169108\text{logTEXP} + 1.024244\text{logGFCF}$$

(-0.706148) (0.282720) (0.474531) (1.946794)

$$R^2 = 0.930881$$

$$K^2 = 0.917922$$

$$F = \text{Statistics} = 71.82876$$

$$DW = 2.409386$$

The intercept is the value of GDP when the explanatory variables are equal to zero. The intercept of GDP is -1.033376 which mean that without FDI, TEXP and GFCF. GDP will be 1.033376

The coefficient for FDI is 0.088995 indicating a positive relationship between FDI and GDP. 100% increase in FDI will lead to 9% increase in GDP.

The coefficient for TEXP is 0.169108 which implies that a 100% increased in TEXP will lead to 17% increase in GDP. But the t-statistics of 0.474531 is weak. Yet, there is a positive relationship between GDP and TEXP.

The coefficient for GFCF is 1.024244 which shows a positive relationship between GFCF and GDP. It also indicated that, a 100% increased in GFCF will lead to 100% increase in GDP. The t-statistics of 2.0 which is equal to 2 indicated that, GFCT is significant in explaining GDP.

The adjusted R-squared of the result is 0.917922. This shows that there exist a good fit since the explanatory variables explained about 92% of the variations in the dependent variable.

The Durbin Watson statistics as shown by the value of 2.409386 fall within the acceptable range of 1.6 and 2.4 shows that there is absence of serial correlation. The F-statistics value is 71.82876. This shows that all the explanatory variables are significant in explaining what happens to GDP in the period under review. Thus the hypothesis that there is positive relationship between FDI and GDP is accepted.

CONCLUSION

The study has shown that foreign direct investment has a positive impact on economic growth in Nigeria between 1986-2006. The granger causality tests indicates that GDP granger cause FDI. This is also an indication that the causality analysis shows directional causal effect between GDP and II.

In economic literature, evidence suggests that FDI has potential positive impact on host countries but this study has shown that Nigeria has not been able to maximize enough benefits to its advantages in terms of economic growth.

As a way out of this problem, the following recommendations are given. Government is to ensure that profits from FDI are re-invested into the economy. Government at all levels should wage relentless wars against corruption since it impedes economic growth

because it reduces investment by increasing the cost of doing business. It is also important that more special and urgent attention must be paid to internal security in order to give confidence to investors since insecurity scares foreign as well as local investors. There is also the need to put in place concrete policies to engender a positive and competitive enabling environment that would attract more foreign investors.

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APPENDIX

GDP at Current Basic Prices (N Million)

YEAR	GDP	FDI	TEXT	GFCF
1986	69146.99	9313.6	8920.6	11351.46
1987	105222.9	9993.6	30360.6	15228.58
1988	139085.3	11339.2	31192.8	17562.21
1989	216797.5	10899.6	57971.2	26825.51
1990	237550	10436.1	100886.1	40121.31
1991	312139.7	12243.5	121535.4	45190.23
1992	532613.8	20512.7	205611.7	70809.16
1993	683869.8	66787	218770.1	96915.51
1994	899863.2	70714.6	206059.2	105575.5
1995	1933212	119391.6	950661.4	141920.2
1996	2702719	122600.9	1309543	204047.6
1997	2801973	128331.8	1241663	242899.8
1998	2708431	152409.6	751856.7	242256.3
1999	3994015	154188.6	1188970	231661.7
2000	4582127	157535.4	1945723	331056.7
2001	4725086	162343.4	1867954	372135.7
2002	6912381	166631.6	1744178	499681.5
2004	11411066.9	249220.6	4602782	863072.6
2005	14572239	269844.7	6372052	804400.8
2006	18564595	302843.3	5752748	1546526

Sources: (1) Central Bank of Nigeria, Statistical Bulletin, Vol.17, December 2006

(2) National Bureau of Statistics. National account of Nigeria 1981-2006, Federal Republic of Nigeria, March, 2007

Regression Result

Dependent Variable: LOG (GDP (-1 >> Method: Least Squares

Date: 02/08/09 Time:10:49 Sample (adjusted): 1987-2006

Included observations: 20 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob
C	-1.033376	1.463399	-0.706148	0.4903
LOG(FDI(-1))	0.0889995	0.314782	0.282720	0.7810
LOG(TEXP(-1))	0.1691108	0.0356368	0.0474531	0.6415
LOG(GFCF(-1))	1.024244	0.526119	1.946794	0.0693
R-squared	0.930881	Mean dependent var	S.D. dependent	14.18978
Adjusted R-squared	0.917922	var Akaike info. Criterion	Schwarz	1.886963
S.E. of regression	0.540602	criticon F-statistic	Prob (F-statistic)	1.784589
Sum squared resid	4.676008			1.983736
Log likelihood	-13.84589			71.82876
Durbin-Watson stat	2.4093856			0.000000