

# An Empirical Analysis on the Contribution of Foreign Direct Investment on Nigeria Economy

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**Abstract:** Foreign direct investment inflow into a given country is expected to bring about significant changes in her economic development and output growth, FDI is seen as an engine of growth to developing countries such as Nigeria by increasing globalization and technology transfer. This paper attempt to empirically analyze the contribution of foreign direct investment to the Nigeria economy, by multiple regression analysis, the finding of the study revealed that there was a positive relationship between GDP and government expenditure, foreign direct investment and labor force between a periods of 1980-2009. In order to attract more seeking FDI and retain them in the country, it is recommended that government should improve the standard of infrastructure and provide relevant social amenities, and provide helps in liberalization of regulated backbone services which provides opportunities for private investment and management.

**Key words:** FDI; GDP; Economic growth; Spillover effect

## 1 Introduction

Nigeria has achieved some appreciable economic growth in recent years, some factors appear to have contributed to this success which includes the rapid development in trade liberalization and substantial increase in FDI inflows into the country. Many scholars have argued that FDI is one of the most important factors for the promotion of economic growth and development, furthermore FDI is seen as an engine of growth to developing countries, by increasing the opportunities for capital flow, globalization, technology transfer which is often referred to as “spillover effect”, expansion of exports and employment opportunities which increase the potential of host countries.

The return of democracy in 1999 has helped the Federal Government of Nigeria to gradually withdraw it participation in commercial activities to embrace a private sector-led growth strategy by establishing an economic policy known as National Economic Empowerment and Development strategy (NEEDS), As a result of this, foreign investors are therefore encouraged to invest in the country. However the policy embarked by the Government has created a unique opportunity for lifting millions of people out of poverty, helped in bridging capital, management, skills and technology gaps where they are most severe and also support the local companies and the workforce towards world standard. Measuring the effect of foreign direct investment on the economy occupies a substantial body of economic literatures, many theoretical and empirical studies have analyzed many channels through which FDI may have a positive or negative effect on economic growth.

Therefore the objective of this paper is to investigate the strategic importance of FDI on the Nigeria economy beyond the oil sector, in addition, review the significant contribution of investments, and assess the level of inflow of foreign direct investment into the Nigerian economy.

This paper is divided into five sections starting with review of some literatures in section 2, section 3 contains the methodology used while section 4 includes result and discussion, and thereafter it was summed up with conclusion and recommendations in section 5.

## 2 Literature Review

Renewed research interest in FDI stem from the changes of perspectives among policy makers from “hostility” to “conscious encouragement”, especially among developing countries. FDI had been as “parasitic” and retarding as the development of domestic industries for export promotion until recently. Several researchers have contributed theoretically and empirically the ways in which inward FDI can contribute to the economy development of host countries, These includes increase in capital accumulation in the recipient economy, improved efficiency of locally owned host country firms via technology change and human capital augmentation and increased exports. However Buckley, Clegg, Wang & Cross, (2002) postulate that the extent to which FDI contributes to economy growth depends on the economic and social condition or the quality of environment of the recipient country. Therefore, this quality of environment is associated to the rate of savings in the host country, the degree of openness

and level of technology development which would benefit from increase FDI to the host countries economies. Bende-Nabende & Ford (1998) submit that the wide externalities in respect of technology transfer, the development of human capital and opening up of the economy to international forces have served to change the former image. Borensztein et al. (1998) sees FDI as an important vehicle for the transfer of technology, contributing to growth in larger measure than domestic investment.

On the basis of these assertions government have often provided special incentives to foreign firms to set up companies in their countries. Carkovic and Levine (2002) note that the economic rationale for offering special incentives to attract FDI frequently derives from the belief that foreign investment produces externalities in the form of technology transfers and spillovers.

Curiously, the empirical evidence of these benefits both at the firm level and at the national level remains ambiguous. De Gregorio (2003), while contributing to the debate on the importance of FDI, notes that FDI may allow a country to bring in technologies and knowledge that are not readily available to domestic investors, and in this way increases productivity growth throughout the economy. FDI may also bring in expertise that the country does not possess, and the foreign investors may have access to global markets. In fact, he found that FDI is three times more efficient than domestic investment.

### **2.1 Empirical evidence of FDI effects on economic growth**

A lot of research interests have been shown on the relationship between FDI and economic growth, although most of such works are not situated in Africa. The focus of the research work on FDI and economic growth can be broadly classified into two. First, FDI is considered to have direct impact on trade through which the growth process is assured Markusen and Vernables, (1998). Second, FDI is assumed to augment domestic capital thereby stimulating the productivity of domestic investments Borensztein et al., 1998; Driffeld, (2001). These two arguments are in conformity with endogenous growth theories Romer, (1990) and across country models on industrialization Chenery et al., (1986) in which both quantity and quality of factors of production as well as the transformation of the production process are ingredients in developing a competitive advantage. FDI has empirically been found to stimulate economic growth by a number of researchers Borensztein et al., 1998; Glass and Saggi, (1999). Blomstrom et al. (1994) report that FDI exerts a positive effect on economic growth, but that there seems to be a threshold level of income above which FDI has positive effect on economic growth and below which it does not. The explanation was that only those countries that have reached a certain income level can absorb new technologies and benefit from technology diffusion, and thus reap the extra advantages that FDI can offer. In summary, UNCTAD (1999) submits that FDI has either a positive or negative impact on output depending on the variables that are entered alongside it in the test equation. These variables include the initial per capita GDP, education attainment, domestic investment ratio, political instability, terms of trade, black market exchange rate premiums, and the state of financial development. Examining other variables that could explain the interaction between FDI and growth, Olofsdotter (1998) submits that the beneficiary effects of FDI are stronger in those countries with a higher level of institutional capability. He therefore emphasized the importance of bureaucratic efficiency in enabling FDI effects.

The neoclassical economists argue that FDI influences economic growth by increasing the amount of capital per person. However, because of diminishing returns to capital, it does not influence long-run economic growth.

### **2.2 Recent trends and performance of FDI**

With the integration of international capital markets, FDI story of Nigeria today is dominated by the oil industry which was not so, at independence in 1960, there was a widespread of FDI presence in the economy. Therefore policy design thereafter narrowed FDI performance and decades of political instability, endemic corruption and economic mismanagement further reduced Nigeria ability to attract and retain FDI. The return of democracy in 1999 has created the opportunity for economic renewal and the attraction of more seeking FDI to Nigeria, The Government of Nigeria undertook ambitious measures to reap the benefits from FDI with a view to improve the investment climate, the policy has started bearing fruits and will certainly provide a more conducive environment to private investment and enhance the attractiveness of FDI to the Nigeria's large and growing market.

The policies were the induction of the National Economic Empowerment and Development Strategy (NEEDS), at the national level and it was associated with poverty reduction at the state and local levels, State Economic Empowerment and Development Strategy (SEEDS) and the Local Economic Empowerment and Development Strategy (LEEDS). NEEDS was adopted in 2003, it was meant to guide public policies until 2007. They broad agenda of the social and economic reforms (NEEDS, SEEDS and LEEDS) were based on four key major strategies:

TABLE I. Improve efficiency in delivering services by reforming the way Government works and eliminating waste and free up resources for investment in infrastructure and social services;

TABLE II. Changing the government into a business regulator and facilitator by making the private sector

the main driver of economic growth;

TABLE III. Push a “value re-orientation by shrinking the domain of the state and hence the pie of distributable rents which have been the heaven of public sector corruption and inefficiency” and

TABLE IV. Implementation of social character such as improving security and welfare.

The reform by NEEDS enabled Nigeria to become the first African country to settle its official debt through an agreed-upon program of debt forgiveness and repayment in October 2005. In 2004 the reform made by the Central Bank of Nigeria in the banking sector with the aim at fostering consolidation in the sector helped the country in improving its financial environment, which as a result of this the country was rated as BB- credit rating by Fitch Standard and Poor’s Rating Agencies in 2006.

The foreign direct investment inflows to Nigeria have been profoundly affected by world price and government policies in the development of the oil sector

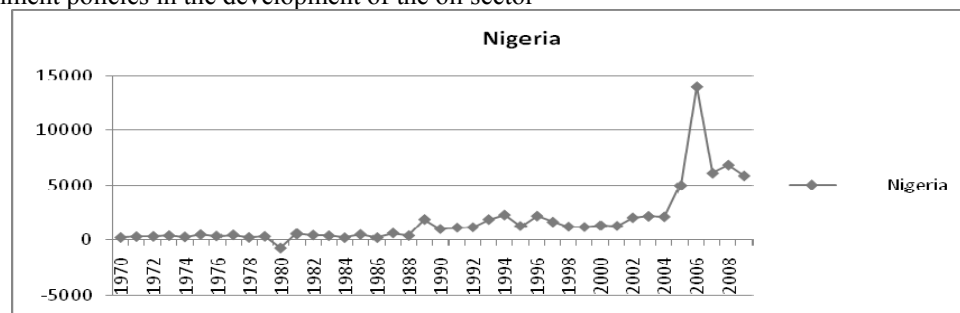


Figure 1 FDI Inflows to Nigeria, 1970-2009 (Millions of dollars)

Source: UNTAD Statistic

Figure 1 shows that in 1970, FDI inflow stood at \$205 Million, later the amount increased to \$470 million in 1975. This positive inflow of FDI within this period is attributed to the government commitment towards encouraging private sector participation in oil and gas industries. Furthermore in 1989 there was a reduction in the Nigeria National Petroleum Corporation (NNPC) stake in shell Nigeria and other oil companies from 80% to 60%, the percentage in the transaction worth over \$1billion, since then, the inflows of FDI to Nigeria have never decreased below \$1 billion per year which also had a positive impact. Between 1970 and the mid -1990’s Nigeria as the primary destination of FDI inflows to Africa accounted for more than 30% of all FDI inflows to the continent, this impact was as a result of oil attractiveness. However from the period of 2007 to 2009 Nigeria leading role in terms of attracting FDI started declining due to the surge of FDI inflow to other oil rich countries such as Sudan and Angola, another factor is the improved FDI performance of other large African countries such as Egypt and South Africa which were successful in attracting FDI in diverse sectors of their economies. Notwithstanding this, Nigeria is still the dominant recipient of FDI within the Economic Community of West African countries (ECOWAS) accounting for more than 70% of group inflows since 2001. Nigeria attracted about half of the FDI inflow to the region in 1970’s.

Therefore FDI to Nigeria is the key contributor to the country’s capital accumulation in 2009, FDI accounted for 30.9% annual average of Gross Fixed Capital Formation (GFCF), compared to an average of 18.7% in the rest of Africa and 9.3% for developing economic countries in the world. The country is ranked 56 in 2009 among 141 covering economies in the world by inward FDI performance index and inward FDI potential index. (Source: UNCTAD world investment Report 2010).

### 2.3 Effect of FDI on Nigeria economy

FDI inflows into Nigeria have been growing largely over the course of the last decade; the county receives the largest amount of FDI in Africa which makes it the nineteenth largest recipient of FDI in the world, most traditional sources of FDI has been into the oil sector. Chevron Texaco and Exxon Mobil from USA had investment stock worth of \$3.4 billion in Nigeria in 2008, UK FDI into Nigeria accounts for about 20% of Nigeria’s total foreign investment while China direct investment to Nigeria is reported to worth \$6 billion. The oil and gas sector receives 75% of China’s FDI in Nigeria therefore making China and Nigeria the second trading partner in Africa next to South Africa. Other significant sources of FDI into Nigeria include France, Brazil, Netherlands, South Africa and Italy.

FDI into Nigeria has successfully speed up the country to the top of the investment table in Sub-Saharan Africa, Nigeria has a range of resources and industries ready for development and global interest in the economy is rising. Outside of petroleum, the country has large untapped mineral resources which include iron ore, coal, lead and Zinc, and the country's expanses of arable land made agriculture and agro-processing industries viable and attractive. The Telecommunication sector has been vibrant with the total of \$18 billion invested into the sector between 2001 and 2009 which has made Nigeria Telecoms Africa's biggest mobile market. The impact of the global economic downturn has been more or less positive on the Nigeria economy in terms of inflow of FDI. In the years of economic downturn, FDI inflows into the country's economy has considerably increased, the economy received about \$20 billion and \$12 billion respectively in years 2008 and 2009, this was associated with the growing competitiveness in the economy. (Source: UNCTAD world investment Report 2009). It can be emphasized that the effect of FDI on an economy as a source of capital has become increasingly important not only because it helps to bridge savings and investment gap but also assist in the attainment of millennium development goal targets of a country. FDI is considered to be a tool for development because it essentially stimulates growth, increase employment and contributes competitive power of a country.

### 3 Methodology

Though using FDI as an input variable has sound theoretical foundation, its empirical measures, vary across studies. Balasebramanyan et al (1996) and Borensztein et al (1998) measures FDI as a ratio of FDI to GDP. Therefore in order to effectively ascertain the contribution of FDI on the Nigeria economy, the following variables are used in the study Government Expenditure, Labour Force and Foreign Direct Investment were considered as independent variables while Nigeria economy is proxy by Gross Domestic Product (GDP) as dependent variable. All the other data relating to the independent variables and that of the dependent variable were sourced from United Nations Conference on Trade and Development (UNCTAD) statistics, the time series data covers 30 years ranging from 1980-2009. The statistical formulation of the model can therefore be presented as follows:

$$\begin{aligned} \text{Model} &= Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \dots + \mu \\ Y &= \beta_0 + \beta_1 X_1 + \beta_2 X_2^2 + \mu \\ Y &= \exp(\beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \mu) \\ X_1 &= 1/X_1 \text{ and } X_2^1 = X_2^2 \\ \text{Log}(Y) &= \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \mu \end{aligned}$$

$$\text{GDP} = \beta_0 + \beta_1 \text{FDI} + \beta_2 \text{GE} + \beta_3 \text{LF} + \mu$$

Where: GDP = Gross Domestic Product

FDI = Foreign Direct Investment

GE = Government Expenditure

LF = Labour Force

μ = Error term

Multiple linear regression method, using E views was employed to analyze the contribution of Foreign Direct Investment on the Nigeria economy.

### 4 Empirical Result and Analysis

Table 1 below depicts the multiple linear regression result describing the contribution of Foreign Direct Investment on the Nigeria economy, Gross Domestic Product (GDP) as dependent variable and inflow in Foreign Direct Investment (FDI), Government expenditure and Labour Force, as independent variables.

**Table 1 Data Analysis**

Dependent Variable: FDI Sample: 1980-2009 Method: Least squares observations:30				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
FDI	2.866313	1.392255	2.058755	0.0497
LF	1.672496	0.444216	3.765049	0.0009
GEX	7.431526	0.576691	12.88649	0.0000
C	-45822.07	14431.37	-3.175172	0.0038

R-squared 0.930236, Adjusted R-squared 0.922187, S.E. of regression 13746.25, Sum squared resid 4.91E+09, Log likelihood -326.2773, Durbin-Watson 1.368017, Mean dependent var 69482.23, S.D. dependent var 49278.47, Akaike info criterion 22.01848, Schwarz criterion 22.20531, F-statistic 115.5624, Prob (F-statistic) 0.000000.

From the above result it is shown that all the three variables have a significant impact on Gross Domestic Product (GDP). From table 1, it could be observed that Government Expenditure contributes the most (7.431) this means that for every unit change in Government Expenditure there is a corresponding change of 7.431 on Gross Domestic Product (GDP). Foreign Direct Investment (FDI) also contributed to GDP, for every unit change in FDI there is a corresponding change of 2.866 on GDP and also Labour Force contributed to GDP, for every unit change in labour force there is a corresponding change of 1.672 on GDP.

The overall result showcase significant value of  $R^2 = 0.93$  showing that the more dependent variable account for the 93% variation of the GDP with only 7% accounted by the error-term, this confirms the validity of the variables and clearly indicates the model capacity to predict the relationship between the dependent variable (GDP) and other independent variables. The adjusted  $R^2$  of 0.92 is closer to  $R^2$  value of 0.93. This means the model is fit for making generalization.

Furthermore the F-value of 115.5 obtained is higher than the critical F-value confirming the significance of the entire variable combined together in the model. Lastly, the Durbin-Watson value of 1.36 is closer to 2 which mean there is absence of autocorrelation problem meaning the model is fit and reliable.

## 5 Conclusions

It is imperative to note that no country can adequately develop without FDI inflow particularly developing countries like Nigeria. Therefore FDI to Nigeria is a key contributor to the country's capital accumulation, with the inflow of FDI to Nigeria, it is expected that the country should be the largest economy in Africa and a major player in the global economy due its abundant reserves of human and natural resources. However these has not been achieved because all major productive sectors have considerably shrunk in size with the over dependence on oil, social unrest and epidemic corruption. For a developing country like Nigeria to be among the top 20th economies in the world by the year 2020, there is a need to attract more seeking FDI. The result suggests that FDI has a positive contribution to the Nigeria economy, especially in areas like oil and manufacturing sector which has led to increase in private participation, high employment with possible multiplier effects on the economy. The research finding reveals that there is a positive relationship between Gross Domestic Product (GDP) and the three independent variables (government expenditure, labor force and Foreign Direct Investment (FDI) inflow).

However based on the empirical findings the following recommendations are considered beneficial in order to attract and retain FDI in Nigeria.

(a) Government should improve on standard infrastructure and provide relevant social amenities to attract more seeking FDI.

(b) The government should help in the liberalization of regulated backbone services which provides opportunities for private investment and management that were hitherto unavailable.

(c) Government should strengthen FDI-related institution in Nigeria Such as the NIPC, BPE and NEPZA at administration, policy and promotion level.

(d) There is a need for the government to provide legal and administrative quality framework for effective privatization.

(e) The Federal Government should consciously improve the business environment by curbing social unrest, corruption and epileptic electricity supply to enable FDI contribute immensely to the economy.

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