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FDI and Economic Growth Nexus: Empirical Evidence from Nigeria (1970-2012)

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Abstract

The study has examined the impact of FDI on economic growth of Nigeria using time series data between 1970 and 2012. Secondary data were sourced from Central Bank Statistical Bulletin. An exploratory research design was conducted using OLS, ADF unit root test and Pair-wise Granger causality test. The major objective of this paper is to analyse the impact as well as direction of causality between FDI and economic growth in Nigeria. The result of the OLS shows a positive and significant relationship between FDI and real GDP proxy for economic growth. Also, granger causality test shows a unidirectional causality between the FDI and Nigerian economic growth. The existence of a positive relationship between FDI and economic growth necessitates the need to continue implementing policies that will attract FDI especially in the non-oil sectors of Nigeria. The study also recommends provision of adequate security especially in the North-eastern part of the country in order to control terrorist activities and pave way for more investment and as well domestic investment should also be encourage through providing necessary incentives to local businessmen.

Key words: FDI, Economic growth, Granger causality and OLS.

1.Introduction

The quest by developing countries for increased FDI stems from the assumption that FDI leads to economic benefits within the host country. In addition, there are existing empirical studies that have further highlighted the benefit of FDI in accelerating growth and development of a country.

FDI to Africa can be traced back to pre-independence era where foreign firms largely from European countries invested enormous resources to acquire natural resources like minerals, timber, oil etc. However, most African countries exhibits features which makes them unattractive to foreign investors especially FDI. First, given high dependence of these countries on export of few primary commodities, they became vulnerable to external shocks. Second, there reliance on agriculture and the usage of traditional implements expose them to such natural shocks, as drought and flood with severe adverse effect on economy. Unquestionable, these features sum of to make the region unattractive to FDI. Third, most of these countries have underdeveloped financial sector and low credit ratings (Udo and Obiora, 2006).

In 1970's, it is estimated that FDI inflows to Africa amounted to $1 billion. By 1980, FDI inflows to Africa had grown to $6.2 billion and $23.8 billion during the period 2000-2010. The leading recipient of FDI inflows to Africa are South Africa, Nigeria and Egypt. In 2010, FDI inflows to South Africa amounted to $6.4 billion representing 21.4% of the entire inflows to Africa. The continent has least proportion of FDI and trend shows a continuous decline. Statistics indicates that in 2010 FDI inflows to Africa accounted about 4.0% of global inflows compared to 6.0% in the 1970's (UNCTAD, 2011). Thus, attracting FDI has become very perceived positive impact on economic growth and development.

Many countries including Nigeria have undertaken structural and regulatory reforms such as privatization of state enterprises or liberalisation of their foreign exchange market and establishment of fiscal incentives like tax holidays in order to attract more FDI. Nigeria as a country, given her natural resource base and a large market size, qualifies her to be a major recipient of FDI in Africa and indeed one of the top three recipients of FDI in the continent. However, the level of FDI attracted by Nigeria is fallen drastically especially from 2009 to 2014 due to serious insecurity bedevilling the North Eastern part of the country, political instability, poor infrastructures among other problems.

Although there is plethora of studies that investigated the impact of FDI on economic growth of Nigeria, a closer examination of these previous studies reveals that conscious was not taken care of the structural shift and financial imbalance that engulfed the Nigeria economy. Specifically, it is observed that over 60% of the FDI inflows into Nigeria are made into extractive industry. Again, most of the studies on FDI and growth debates are country specific. Earlier studies, for example, Adelegan (2000), Akinlo (2004), Hansom (2001) etc examine the impact of FDI on economic growth and the ways through which it may be benefiting the host country. This paper therefore, seek to examine the impact of FDI on economic growth of Nigeria and the causal relationship between the variables using time series data spanning from 1970 to 2012, the study is different from previous studies in terms of scope, tools of analysis and special consideration to only FDI.

The study is divided into five sections following the introduction, in section 2, review of related literature is undertaken, section 3, focuses on methodology and sources of data while section 4, presents the result and findings of the study. Section 5 concludes the study with recommendations for policy action.

2.Literature Review

2.1.Theoretical frame work

Kumar (2007) described direct foreign investment in several ways. First and most likely it may involve parent enterprises injecting equity capital by purchasing shares in foreign affiliates. Second, it may take the form of reinvesting the affiliate's earning. Third, it may entail short-or-foreign investment as a share of gross domestic product has grown rapidly, becoming the largest source of capital moving from developed nations to developing nations. Caves (1996) observe that the rationale for increase efforts to attract more FDI stem from the belief that FDI has several positive effects. Among these are productivity gain, technology transfers and the introduction of new processes managerial skills and know how in the domestic market, employee training, international production networks, and access to market. Carcovic and Tevine (2002) notes that the economic rationale for offering special incentives to attract FDI frequently derives from the belief that foreign investment produces externalities in form of technology and spill-over FDI provides much needed resources to developing countries such as capital, technology, managerial skills, entrepreneurial ability, brand and access to market which are essential for developing countries to industrialize, develop, create jobs, and attack the poverty situation in their countries. Dauda (2007) argue that FDI is generally believe to propel in developing countries as it makes significant contribution to the host country's development process especially through easing of constraints of low levels of domestic savings and investment as well as foreign exchange shortage, he further argues that FDI increases the GDP and generates a streams of real incomes in host country. The increased productivity benefits local income groups through higher wages and expanded employment, lower product prices paid by customers, rent to local resource owners and high tax revenue or royalties to government.

2.2 **Empirical review**

There have been quite a number of empirical studies analysing the relationship between FDI and economic growth so far, the results however, varied as different tools of analysis and data sample are adopted.

Akinlo (2004) investigates the impact of direct foreign investment (DFI) on economic growth in Nigeria using data for period 1970-2010. The results from error correction model (ECM) show that both private capital and lagged foreign capital have small significant impact on export and economic growth. Financial development, which measured as M2/GDP has significant negative impact on growth. This he attributed to capital flight. Also, the results showed labour force and human capital have significant positive effect on growth. These findings suggest for labour force expansion and education policy to raise the stock of human capital in the country.

Dritsala et al (2004) applies a co-integration and causality approach in which they find a positive long run equilibrium relationship between FDI and economic growth and a-one-way causality between FDI and economic growth, running FDI to growth. Tang et al (2008) explores the causal link between FDI, domestic investments and economic growth in china between 1988-2003 using the multivariate VAR and ECM. The results indicate that there is a bi-directional causality between domestic investment and economic growth, while there is a single directional causality from FDI to domestic investment on economic growth.

Ogbekor (2005) examines the role of FDI and export on economic growth of Namibian economy from 1991 to 2001. Using a combination of bivariate and multivariate variable model, the study concludes that FDI and export aids economic growth potential, Althukorala (2003) examines the impact of FDI on economic growth in Sri Lanka between 1959 and 2002, agrees that the regression result do not provide much support for the view of robust link between FDI and growth in Sri Lanka. He posits that the situation is due to lack of improved investment climate such as good governance, accountability, political stability among others.

Adelegan (2000) explore the seemingly unrelated regression model to examine the impact of FDI on economic growth in Nigeria and found out that FDI is pro-consumption and pro-import and an analysis of causality between economic growth and FDI in pre and post deregulated Nigerian economy (1970-2007) is negatively related to Gross Domestic Investment.

3.Methodology and Sources of Data

The researcher makes use of secondary data which will be sourced from Central Bank of Nigeria (CBN) publications, Journal papers, National Bureau of Statistics (NBS), books, term papers etc. based on the perceived causal relationship between the identified variables of the research interest, a simple regression model which is stochastic in nature is specified to forge a link between FDI and economic growth. Estimation of the model is via ordinary least square approach facilitated by the application of E-views econometric software.

Therefore, the model can be specify as

GDP = (FDI) ……………………………. (1)

Equation (1) above can be stated explicitly as:

$GDP = \beta_0 + \beta_1 FDI + U$

Where:

GDP = Gross Domestic Product

FDI = Foreign Direct Investment

β_0 and β_1 = Parameters

U = error term

According to the economic theory, it is expected that an increase in the level of foreign direct investment will greatly influence the level of economic activities.

4.Results and Discussions

Unit Root Test

The ADF test result in table 1 below shows that all the variables including real GDP and FDI were found stationary at level.

Table 1: ADF Unit Root Test Result at level

Variables	ADF test statistics	Mackinnon critical Values
RGDP	3.9999*	-1.62285
FDI	-4.55330	-2.39990

Source: Author's calculated using E-views software

Note: *, ** Denote rejection of null hypothesis at 1% and 5% level of significance.

Table 2: OLS Regression Result, Real GDP as the Dependent Variable.

Variables	Coefficient	Std. Error	T-Statistics	Probability
C	114394.3	25558.59	4.475769	0.0000
FDI	8.30E05	7.81E06	10.63181	0.0001
R-Squared	0.733827			
Adj R-square	0.727335	MeanDep var	285827.3	
S.E of REG	130036.1	S.D Dep var	249028.7	

Sum squared	6.93E+11			
Log likelihood	-566.3397	F-Statistics	113.0354	
Durbin Watson T-test	0.798151	Prob (F-stat)	0.000000	

Source: author's calculation using EVIEWS Econometric Software.

The result of the estimated regression shows that the slopes of the coefficients are in line with the prior expectation. The entire coefficient is positive. It is very clear that a unit increase in FDI increases the GDP by 8.3005. This implies that changes in the dependent variable depend on changes on the explanatory variable (FDI)

The result of the analysis also shows that R^2 is 0.73382. This implies that FDI explained about 73% variability in economic growth during the model is a 'good fit' and that FDI is an important determinant of economic growth in Nigeria.

Also, the value of t-statistics is 10.6318, indicating that FDI is statistically significant at 5% level of significance since the value of t-statistics is less than its corresponding theoretical value of 1.68.

Furthermore, D.W is equal to 1.7981; this implies the absence of serial correlation. This is because the closer the D.W value to two (2) the better the evidence of the absence of serial correlation.

Table 3: Pair Wise Granger causality test

Lag 2			
Null hypothesis	**OBS**	**F-statistics**	**Probability**
FDI does not Granger cause RGDP	41	14.23175	0.1220
RGDP does not Granger cause FDI		2.3742	3.E05

Source: Extracted from E- VIEWS econometric software.

The Granger causality in table 3 above shows the direction of causality between the variables. Therefore, F-statistics was used to measure the causality at 0.05 level of significant. The result depicts a unidirectional causality running from FDI to RGDP proxy to economic growth. This can be interpreted to mean that there is a causal relationship between FDI and economic growth in Nig**eria.**

5.Conclusion and Recommendations

Generally, the finding of this study shows that there is positive and significant relationship between FDI and economic growth in Nigeria. This implies that foreign direct investment is growth enhancing in Nigeria which is in line with economic theory.

Also, the result of the causality indicated that there is a unidirectional causality running from FDI to real GDP proxy for economic growth'. Nigeria is one of the economies with great demand for goods and services and has attracted significant FDI over the years especially in the extractive sectors of the economy.

From the study, the major conclusion that can be drawn is that although there exist positive relationship between FDI and Nigerian economic growth but the country is yet to fully benefit from the teeming FDI received. This is because the impact on the economy is very little. This may be attributed to poor infrastructures in the country, lack of contuinity in government policy, corruption among many other factors. It is important to know that unless Nigeria tackled the aforementioned problems before it will achieve any significant progress amidst of the challenges of 21st century. The following recommendations are proffered:

1. The existence of a positive relationship between foreign direct investment and economic growth necessitates the continued implementation of policies for attracting foreign direct investment especially in the non-oil sectors of the Nigerian economy.
2. The federal government and various states governments should as a matter of priority, improve the business environment by consciously providing the necessary social and economic infrastructures, which will lower the costs of production and attract FDI into the country.
3. Government should also encourage domestic investment through providing necessary incentives to local businessmen.
4. Security should also be provided especially in the North-eastern part of the country in order to control terrorist activities and pave way for more investment in the region.

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