

An Econometrics Analysis of Foreign Direct Investment on Economic Growth in Nigeria.

¹Olusanya Samuel Olumuyiwa, ²Oyebo Afees Oluwatosin
^{1,2}Lecturer Lagos State University External System, Nigeria.

Abstract: *This study investigates the Econometrics analysis of foreign direct investment (FDI) on economic growth in Nigeria for the period of 1985-2010. it examines the importance of foreign direct investment (FDI) as a source of financing for development in Nigeria and investigates the channels through which it benefits the economy. An extended Cobb Douglas production function is used whereby investment is disaggregated into two different types' namely, domestic private investment and foreign direct investment for more comparative analysis. This research work is similar to numerous empirical studies and conclusions in Nigeria on FDI and its importance to economic growth. The study employs recent techniques in time series econometrics namely Co-Integration, Error Correction Model (ECM) to determine the long and short run term impact of foreign direct investment on economic growth as well as the ordinary least techniques to estimate our equation for the period under study. The funds that FDI overall contribution is significant and has a negative effect on Nigeria's economic growth. This is based on the fact that Nigeria has not been able to absorb the knowledge and technical spillover effect of foreign direct investment inflow into the country. However FDI fails to augment human capital development due to the low level of existing human capital in the country and there is need for more emphasis on training to enhance its potential to contribute to economic growth, factors such as political and macroeconomic instability, low growth, weak infrastructure, poor governance, inhospitable regulatory environments, and ill-conceived investment promotion strategies, are identifies as responsible for the poor FDI record in Nigeria. Examining the constraints to improve contribution of FDI to the growth process, the study concludes that it will require an appropriate mix of proactive government policies to direct FDI to priority sectors of the economy; effective enabling environment to make Nigeria an attractive FDI host.*

Key Words: *Foreign Direct Investment, Economic Growth, Nigeria.*

I. Introduction

The capacity of African countries to attract foreign direct investment (FDI) is principally determined by their natural resources and the size of their local markets. Over the years, Nigeria has been one of the most successful countries in Africa because of its comparative location advantage in oil despite its unstable political and economic environments.

There is a general theoretical consensus among development economists that foreign direct investment (FDI) inflow is likely to play a critical role in explaining growth of recipient countries (De Mello, 1997, 1999; Akinlo, (2004) provide detailed literature survey). FDI inflows in fact represent additional resources a country needs to improve its economic performance provides both physical capital and employment possibilities that may not be available in the host market.

The question of foreign direct investment is particularly important role in various theories of trade. Orthodox theory, for instance, find foreign direct investment to be a means for closing the gap between rich and poor capitalist countries, on the grounds that it transfers savings from the developed countries to the underdeveloped ones (Shaikh, 1978).

The impact of foreign direct investment (FDI) and economic growth is a well-studied subject in the development economics literature, both theoretically and empirically. Recently, renewed interest in growth determinants and the considerable research on externality-led growth, with the advent of endogenous growth theories (Barro and Sala-i-Martin, 1995), made it more plausible to include FDI as one of the determinants of long run economic growth. The interest in the subject has also grown out of the substantial increase in FDI flow that started in the late 1990's, and led to a wave of research regarding its determinants.

The value of FDI lies in its ability to promote the development in the recipient country. FDI has been seen as having an important role to play in the development process of many countries. In the standard neoclassical model for economic growth, increases in the capital stock and labour force will contribute to higher economic growth. Therefore the flow of FDI by increasing the domestic capital stock will contribute to increasing the growth of the economy. More importantly, it has often been argued that FDI contributes to growth beyond the direct effect of increasing the capital stock. FDI is seen to bring to the host country additional benefits such as new technology, access to foreign markets and managerial know-how. Expectations of these extra benefits are part of the reasons that governments on developing countries provide special

incentives to attract FDI into the countries. These incentives can take the shape of setting up foreign investment promotion agencies or even to offer tax and fiscal incentives to foreign firms that invest in the country. These benefits can be quite costly in terms of tax revenues foregone. Therefore, it is important that the benefits of FDI can be clearly identified in order to justify the costs of the FDI promotion activities.

The arguments for or against foreign direct investment are far from over and may never be as they ultimately reflect important differences in value judgments and political ideologies about development strategies.

However, despite the considerable volume of research on the subject, there is conflicting evidence in the literature regarding the question as to how FDI impacts on economic growth. In particular, a two-way interaction has been discussed in the literature of FDI growth relationship. On one hand, FDI is being seen, by many, as an important element in the solution to the problem of scarce local capital and overall low productivity in many developing countries (De Mello, 1999; Eller, et. al, 2005). Hence, the flow of foreign direct capital is argued to be a potential growth-enhancing player in the receiving country. Many authors challenge this view. For example, Carkovic and Levine (2002) show that there is no robust impact from FDI on growth if country-specific level differences, endogeneity of FDI inflows and convergence effects are taken into account; In addition, Akinlo (2004) shows that both private capital and lagged foreign capital have no statistically significant effect on economic growth. He concluded that the results seem to support the argument that extractive FDI might not be enhancing as much as manufacturing FDI.

On the other hand, recognizing the importance of FDI to growth, economic growth itself has been identified frequently as an important determinant, from among the various determinants of FDI inflow into the host countries. Rapid growth of an economy might attract more FDI by multi-national companies (MNCs), as they locate new profit opportunities (Hansen and Rand, 2006).

Therefore, two strands of research have emerged: one that discusses the effects of FDI on economic growth while the other recognizes these effects and subsequently tries to identify the determinants of FDI flow to the receiving countries. The possibility of a two-way causality between the two variables identifies a third line of research in the FDI literature, but of a lesser magnitude (Choe, 2003).

Existing empirical evidence, in contrast with more settled theoretical evidence, show mixed results on the impact of FDI on economic growth of the host countries, and the determinants of FDI. Several reasons may be advanced to explain such disparity of empirical results. To mention a few, first, tests are traditionally conducted using data sets usually belong to heterogeneous groups of countries. Second, previous studies have used a variety of theoretical models. Third, empirical studies have usually implemented a number of different econometric techniques in testing and estimation. However, this disparity in result does not preclude the need for further investigation of the subject as long as it is clearly indicated that the analysis and the obtained results are not necessarily generalized to other cases.

Unfortunately, the efforts of host countries in Africa to attract FDI have been futile. This is in spite of the perceived and obvious need for FDI in the continent. The development is disturbing, sending very little hope of economic development and growth for these countries. Further, the pattern of the FDI that does exist is often skewed towards extractive industries, meaning that the differential rate of FDI inflow into sub-Saharan African countries has been adduced to be due to natural resources, although the size of the local market may also be a consideration (Morriest 2000; Asiodu, 2001).

More so, the main objective of this paper is to examine the impact of FDI inflow on economic growth in Nigeria and suggest a framework for policy implementations based on the findings from the study. In specific terms, the study seeks to examine the trend of Foreign Direct Investment (FDI) in Nigeria; examine the trend of economic growth in Nigeria; investigate the links between Foreign Direct Investment (FDI) and economic growth in Nigeria.

II. Literature Review And Theoretical Framework

Foreign direct investment has been proved in the literature to be an important promoter of growth in its own right. In effect, foreign direct investment is argued to increase the level of domestic capital formation; this also implies producing on large scale, which in turn results in benefits of economies of scale, specialization, increasing export and employment opportunities. These are likely to result in positive economic impact.

Foreign direct investment is a key ingredient of successful economic growth in developing countries because the very essence of economic development is the rapid and efficient transfer and cross border adoption of best practices, be it managerial and technical best practice or deployment of technology from abroad (Borensztein et al, 1998). Proximity and better access to large market is also well known to attract foreign direct investment that in turn implies often-accelerated technology transfer. As such better worker training dispensed by foreign investors has often been argued to raise the level of productivity, countries can in effect use such firms as catalysts that allow them to leapfrog stages in development.

There is conflicting evidence in the literature regarding the question as to how, and to what extent, FDI affects economic growth. FDI may affect economic growth directly because it contributes to capital

accumulation and the transfer of new technologies to the recipient country. In addition, FDI enhances economic growth indirectly where the direct transfer of technology augments the stock of knowledge in the recipient country through labour training and skill acquisition, new management practices and organizational arrangements (De Mello, 1999).

Most studies generally indicate that the effect of FDI on growth depends on other factors such as the degree of complementarities and substitution between domestic investment and FDI; and other country-specific characteristics. Buckley et. al, (2002) argue that the extent to which FDI contributes to growth depends on the economic and social conditions in the recipient country. Countries with high rate of savings, open trade regime and high technological levels would benefit from increase FDI to their economies. However, FDI may have negative effect on the growth prospects of the recipient economy if they result in a substantial reverse flows in the form of remittances of profits, and dividends and/or if the multinational corporations (MNCs) obtain substantial or other concessions from the host country. Bengoa and Sanchez-Robles (2003) argue that in order to benefit from long-term capital flows, the host country requires adequate human capital, sufficient infrastructure, economic stability and liberalized markets. The view that FDI fosters economic growth in the host country, provided that the host country is able to take advantage of its spillovers is supported by empirical findings in De Mello (1999) and Obwona (2001). Borenszrein et al. (1998) go further to suggest that FDI is an important vehicle for the transfer of technology, contributing relatively more to growth than domestic investment. They used a model of endogenous growth, in which the rate of technological progress is the main determinant of the long-term growth rate of income.

Renewed research interest in FDI stems from the change of perspectives among policy makers from “hostility” to “conscious encouragement”, especially among developing countries. FDI had been seen as “parasitic” and retarding the development of domestic industries for export promotion until recently. However, Bende- Nabende and Ford (1998) submit that the wide externalities in respect of technology transfer, the development of human capital and the opening up of the economy to international forces, among other factors, have served to change the former image.

Caves (1996) observe that the rationale for increased efforts to attract more FDI stems from the belief that FDI has several positive effects. Among these are productivity gains, technology transfer, and the introduction of new processes, managerial skills and know-how in the domestic market, employee training, international production networks, and access to markets.

On the basis of these assertions, governments have often provided special incentives to foreign firms 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 foreign investors may have access to global markets.

In fact, he found that increasing aggregate investment by 1 percentage point of GDP increased economic growth of Latin American countries by 0.1% to 2% a year, but increasing FDI the same amount increased growth by approximately 0.6% year during the period 1950-1985, this indicating that FDI is three times more efficient than domestic investment.

III. Methodology

Model Specification

The effect of FDI on economic growth is analyzed in the standard growth accounting framework. To begin with, the capital stock is assumed to consist of two components: domestic and foreign owned capital stock, So,

$$K_t = K_{dt} + K_{ft}$$

We adopted an augmented Solow production function (Solow, 1956) that makes output a function of stocks of capital, labour, human capital and productivity (see Mankiw et al, 1992). However, we specify domestic and foreign owned capital stock separately in a Cobb-Douglas production function as

$$Y_t = A_t K_{dt}^\alpha K_{ft}^\lambda L_t^\beta H_t^\gamma$$

Where Y is the flow of output, K_{dt} , K_{ft} represent the domestic and foreign owned capital stock respectively, L is the labour, H is human skills capital stock and A the total factor productivity, which explains the output growth that is not accounted for by the growth in factors of production specified.

Taking natural logarithms of Equation (I) and differentiate with respect to time, we obtain the familiar growth equation in a linear form:

$$\ln y_t = \ln a_0 + \alpha \ln K_{dt} + \lambda \ln K_{ft} + \beta \ln L_t + \gamma \ln H_t \quad (2)$$

Where lower case letters represent the growth rates of output, domestic capital stock, foreign stock, labour and human capital, and α , λ , β and γ represent the elasticity of output, domestic capital stock, foreign capital stock, labour and human skill capital respectively.

Equation (2) is a fundamental growth accounting equation, it can further be written as:

$$\ln Y_t = \ln a_0 + \alpha \ln K_{dt} + \lambda \ln K_{ft} + \beta \ln L_t + \gamma \ln H_t + \mu_t \quad (3)$$

Where a_0 and μ_t are constant and error term respectively

From Equation 3 above, the empirical model of FDI on Nigeria's economic growth can further be written as.

$$\ln GDP = \beta_1 + \beta_2 \ln GCF + \beta_3 \ln FDI + \beta_4 \ln LF + \beta_5 \ln HC + \mu_t \quad (4)$$

Variables Description

$\ln GDP$ = Natural logarithm of GDP

$\ln GCF$ = Natural logarithm of Gross Capital Formation, used as proxy for domestic investment

$\ln FDI$ = Natural logarithm of Foreign Direct Investment, proxied by Nominal Foreign Direct Investment

$\ln LF$ = Natural logarithm of Labour Force

$\ln HC$ = Natural logarithm of Human Capital, proxied by secondary school enrolment

Model Estimation and Techniques

The parameters of the model shall be estimated using the ordinary least squares (OLS) techniques. Theoretically, α , γ , and β are expected to be positive while the sign of λ would depend on the relative strength of competition and linkage effects and other externalities that FDI generates in the development process as discussed in the literature.

Unit Root Test

Prior to estimation, we shall subject the data to vigorous tests in order to establish their adequacy as regards stationarity. The need to determine whether time-series data are stationary overtime underscores the importance of unit root test. The test in which the order to integration of each series employed is determined. The determination of each series is necessary for co-integration and indeed for error correction model, simply because each series involved in the estimation of a model must be integration of the same order (Engle and Granger 1987). A time – series is said to be stationary if it exhibits white noise. It implies that the series is integrated of order zero, or at level $X \sim (d)$.

The Augmented Dickey-Fuller (ADF) test is adopted in this research to determine the order of integration and is stated as follows:

$$\Delta Y_t = \beta_1 + \beta_2 t + \delta Y_{t-1} + \alpha_i \sum \Delta Y_{t-1} + \varepsilon_t \quad (5)$$

Where ε_t is a white noise error term and where $\Delta Y_{t-1} = (\Delta Y_{t-1} + \Delta Y_{t-2})$, $\Delta Y_{t-2} = (\Delta Y_{t-2} + \Delta Y_{t-3})$, etc. the number of lagged difference terms to include is often determined empirically, the idea being to include enough terms so that the error term is serially uncorrelated.

Co-integration Test

The co-integration technique allows for the estimation of a long-run equilibrium relationship. Simply put, one can argue that various non-stationarity time series are co-integrated when they are linear combination are stationary. Stationary derivations from the long run are allowed in the short run. Economically speaking two variables can only be co-integrated if they have long-term or equilibrium relationship between them. The co-integration technique was pioneered by Engle and Granger (1987) and extended by Johansen (1990). Granger notes, "A test for co-integration can be thought of as a pre test to avoid 'spurious regression' situation. We adopt the Johansen procedure, which is stated as follows:

$$\Delta U_t = \beta_0 + \delta U_{t-1} + \alpha \sum \Delta Y_{t-1} + \varepsilon_t \quad (6)$$

The method that is adopted for testing co-integration is the co-integrating regression Durbin-Waston (CRDE) test, whose values were first provided by Sargan and Bhargava (1983).

Error Correlation Mechanism (ECM)

The error correlation mechanism is employed to tie the short-run dynamic behaviours of a variable to its long-run value. The error correlation mechanism (ECM) first used by Sargan and later popularized by Engle and Granger (1987) corrects for disequilibrium.

Given these dynamics, Engle and Granger suggested that adjustments should be involved through the (iterative) process to obtain a more parsimonious model. The ECM is stated as;

$$\Delta Y_t = \alpha_0 + \alpha_1 \Delta X_t + \alpha_2 U_{t-1} + \varepsilon_t \quad (7)$$

Where Δ as usual denotes the first differences operator, ε_t is the random error term, and $U_{t-1} = (Y_{t-1} - \beta_1 - \beta_2 X_{t-1})$, this is the one period lagged value of the error from the co-integrating regression.

Unit Root Test Result

For a guide to an appropriate specification of the regression equation, the characteristics of the time series data used for estimation of the model were examined to avoid spurious regression. We begin by determining the underlying properties of the process that generate out time series variables that is whether the variables in our model were stationary or non-stationary. Macroeconomic data often appear to possess stochastic trends that can be removed by differencing the variables. We therefore employ the Augmented Dickey Fuller (ADF), to test the order of integration of the variables.

IV. Results

Unit Root Test Result

Table 1: Unit Root Test Result

Variables	ADF T-Statistic	Order
LNGDP	-5.81519	I(1)
LNGCF	-3.715559	I(1)
LNFDI	-8.326947	I(1)
LNLF	-3.644784	I(1)
LNHC	-3.277387	I(0)

Note: The 5% critical value for the ADF statistic is -2.95

The result above in table 1 shows that Gross Domestic Product (GDP), Gross Capital Formation (GCF), Foreign Direct Investment (FDI) and Labour Force (LF) are stationary at first difference that is the variables are I(1) series, while only Human Capital (HC) is stationary at levels meaning is an I(0) series. This is deduced from the fact that for the levels of variables, the absolute values of the ADF statistics are greater than the critical values of the ADF at 5% level of significance.

Johansen's Co-integration Test Result

The co-integration analysis helps to test for the existence of long run stable relationship that exists between the dependent variable and its regression. A vector of variables integrated of order one is co-integrated if there exist linear combination of variables that are stationary. Following the approach of Johansen and Juselius (1990) two likelihood ratio test statistic, the maximal eigen value and the trace statistic were utilized to determine the number of co-integration vectors.

Table 2: Test of Co-integration

Series	Eigenvalue	Trace Value	Percent Critical value	1 percent critical Value	Hypothesized No. of CE(S)
LNGDP	0.67729	82.01469	68.52	76.07	None**
LNGCF	0.537505	46.95369	47.21	54.46	At most 1
LNFDI	0.429451	23.04896	29.68	35.65	At most 2
LNLF	0.166694	5.653101	15.41	20.04	At most 3
LNHC	3.83E-06	0.000119	3.76	6.65	At most 4

*(**) denotes rejection of the null hypothesis at the 5%(1%) level respectively

Trace test indicates 1 co-integrating equation at both 5% and 1% level

Table 2 above reveals that the null hypothesis of no co-integration is rejected. This implies that the long run test reveals co-integration relationship among variables that were included. The result also reveals that there is 1 Co-integration equation(s) at both 5% and 1% levels; this indicates a long run equilibrium relationship between Gross Domestic Product and its explanatory variables.

Error Correlation Model (ECM) Result

We proceed to estimate the short run error correlation model after having reached a conclusion regarding the inherent long run relationships. Hendry's 'general to specific' approach was used to reduce the over-parameterized equation to its parsimonious form.

The results presented in table 6 shows that the model has a good fit indicated by the R squared of 0.5. The explanatory variables explain 50% of the variation in Gross Domestic Product (GDP). There is no serial autocorrelation given that the Durbin Watson statistic (2) is within the acceptable bound.

Table 3: Error Correlation Model

Variable: D (LNGDP)

Included Observation: 25

Excluded Observation: 2 after adjusting and points

Variable	Co-efficient	Std. Error	T-Statistic	Prob.
Constant	0.266295	0.094448	2.819495	0.093
D (LNGCF)	0.0069136	0.029875	2.314152	0.0292
D (LNFDI(-1))	0.014869	0.011698	1.271126	0.2154
D(LNLF(-1))	-9.333722	3.507201	-2.661303	0.0134
ECM(-1)	-0.325058	0.169338	-1.919585	0.0134

R squared	0.507884	Mean Dependent Var.	0.084838
Adjusted R squared	0.491450	S.D. Dependent Var.	0.046133
S.E of regression	0.034856	Akaike info Criterion	-3.724168
Sum squared resid.	60.86252	Schwarz Criterion	-3.490635
Log likelihood	0.039684	F statistic	6.450249
Durbin Watson stat	2.039684	Prob (F-statistic)	0.001040

Table 3 shows that Gross Capital Formation has a positive relationship and it's statistically significantly related to Gross Domestic Product. The lagged value of Foreign Direct Investment also has a positive impact but it's statistically insignificant to Gross Domestic Product (GDP) while the lagged value of Labour Force is negative but statistically significantly related to Gross Domestic Product.

Some previous studied have reported similar result, Obwona (2004) notes that the consensus now appears to be that FDI is positively correlated with growth while Dees (1998) also reports a positive influence of FDI on China's economic growth.

V. Interpretations And Implication Of The Results

The estimated co-efficient from OLS specifications explaining the impact and significant of our explanatory variables are presented in the table below.

Table 4: OLD Result

Dependent Variable: D(LNGDP)

Method: Least Squares

Date: 01/14/011 Time: 13:15

Sample(adjusted): 1985 2010

Included Observations: 25

Excluded Observations: 2 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.280457	0.178548	1.570763	0.1275
D(LNGCF)	0.086766	0.037906	2.288979	0.0298
D(LNFDI)	-0.008204	0.014892	-0.550899	0.5861
D(LNLF)	-3.381367	4.879324	-0.692999	0.4940
LNHC	-0.011320	0.010788	-1.049273	0.3030

R-squared	0.291537	Mean dependent var	0.038654
Adjusted R-squared	0.190328	S.D. dependent var	0.052522
S.E. of regression	0.047260	Akaike info criterion	-3.127563
Sum squared resid	0.062539	Schwarz criterion	-2.900819
Log likelihood	56.604790	F-statistic	2.880549
Durbin-Watson Stat	2.334104	Prob(F-statistic)	0.040778

Table 4 above shows that only Gross Capital Formation is positively related and statistically significantly related to Gross Domestic Product. Foreign Direct Investment (FDI), Labour Force and Human Capital are all negative and statistical insignificantly related to Gross Domestic Product (GDP).

Our result above shows that 1% increase in Gross Formation will result in increase in Foreign Direct Investment (FDI), Labour Force and Human Capital will result in an average decline in Gross Domestic Product (GDP) by 0.01%, 3.38% and 0.01% respectively. The R-squared is very low, this basically could be as a result of some other explanatory variables that should have been included but were not accounted for in our model. The R-squared is 0.29; this means that the explanatory variables explain 29% of the variation in Gross Domestic Product (GDP). There is no serial autocorrelation given the Durbin Watson statistic is within the acceptable bound.

Human Capital

The endogenous growth model emphasized on the role of endogenous factors (i.e., human capital stock and R&D activities) as the main engine of economic growth; it treats human capital as a critical factor in determining growth rate of output. It's an important source of long term growth either because it is a direct input into research or because of its positive externalities.

Our result contradicts the endogenous growth model, which shows that human capital is negative and statistically insignificantly related to Gross Domestic Product (GDP). The implication of this is that the quality of human capital in Nigeria is low, meaning there is shortage of skilled labour in the country and may not be able to absorb the technology being transferred via foreign investment. For any significant contribution of human capital to economic growth there is a need for conscious development in a new and innovation way (Otepolo, 2002).

Labour Force

The co-efficient of labour force also shows it's negative and statistically insignificant related to growth. This implies that the level of skilled labour is very low and has not benefited from knowledge Spillovers basically because technology gap between foreign and domestic firms is too wide. This is a general case in poor countries.

Obwona (2004) notes that although labour appears to be cheap in Africa; there is nonetheless an overall shortage in skilled labour on the continent. The lack of middle or senior level entrepreneurial experience has increased the existing skill gap and many foreign companies has resorted to employment of expatriate managers (Bhinda et al, 1999). This is the situation in Nigeria, where foreign companies and many conglomerates prefer expatriates as their senior managers. The companies only hire Nigerians on the condition of retraining and mostly this training is done outside the country.

Gross Capital Formation

A lot of research interest has been shown on the impact of FDI on economic growth, Foreign Direct Investment (FDI) is assumed to augment domestic capital thereby stimulating the productivity of domestic investment. This conforms to the endogenous growth theory.

Our result shows that Gross Capital Formation has a positive impact and is statistically significant to economic growth. This conforms to Ariyo (1998) who studied the investment trends and its impact on Nigeria's economy. He also found out that only private domestic investment consistently contributed to raising GDP growth rate during the period considered (1970-1995). Our findings seem to fit the neo-classical prediction that investment can only sustain growth in the short and medium term. Once the economy attains a steady state of equilibrium in the long run, growth can only come from technological progress. In Nigeria, therefore capital accounted for a greater share of variation in output in the short term and medium term than the long term.

Foreign Direct Investment

The result of Foreign Direct Investment has a negative impact and is statistically insignificantly related to economic growth. This finding contradicts existing theories which shows that the increase in Foreign Direct Investment leads to increase in capital inflows which increase the domestic capital accumulation and in turn lead to economic growth of a country. For many developing countries the ability to draw upon an international pool of financial capital offers large potential benefits and positive effects. Among these are productivity gains, technology transfers, and the introduction of new processes, marginal skills and know-how in the domestic market, employee training and international forces, among other factors.

From theoretical literature, FDI increases growth through productivity and efficiency gains by local firms. Empirical material supports this in developed countries but, for developing countries, the results are mixed. A number of reasons have been advanced for these mixed results, for instance that the envisaged forward and backward linkages may not necessarily arise. Foreign firms often import inputs that would otherwise have been purchased from local firms.

This weakens the effects of backward linkages. The assumption that MNCs encourage increases in productivity, due to increased competition may also not necessarily be true in practice. Better productivity in domestic firms producing for export does not powerful tool for export promotion, because MNCs have well established contacts and up-to-date information on foreign markets. Such effects may not be visible in countries with weak infrastructure and rigidities in factor and commodity markets. The role of FDI in weak promotion also depends on the motive for the investment: if is to capture a protected domestic market or to use a country's comparative advantage for exports.

The consensus in the literature appears to be that a FDI spillover depends on the host country's capability to absorb the foreign technology, and on the type of investment climate in the host country. The higher the level of available human capital in a country and the better the investment climate, the stronger the spillover effects will be.

Odozi (1995) reports on the factors affecting FDI flow into Nigeria in both pre and post structural adjustment programme (SAP) eras and found that macroeconomic policies in place before SAP were discouraging foreign investors. The policy environment led to the proliferation and growth of parallel markets and sustained capital flight. There is therefore the need for the implementation of good macroeconomic policies that will increase the free flow of foreign direct investment into the country and map out strategies to reap all the benefit that foreign direct investment has to offer for sustainable economic growth and development in Nigeria.

VI. Discussion And Conclusion

We have critically and analytically examined the impact of foreign direct investment inflow on Nigeria's economic growth from 1985-2010. The empirical part of the paper attempted to verify whether FDI inflows affect economic growth, the paper contributes to the mixed results of earlier empirical studies on the macro level by the finding that FDI inflows does not have a positive effect on the Nigerian economy. This paper has argued that for FDI to enhance economic growth, the country should take advantage of the technology spillovers and inflows of physical capital it has to offer.

The empirical evidence suggests that in order to induce more foreign direct investment to Nigeria, the country should focus on improving the investment climate for the foreign investors by paying special attention to measures that facilitate foreign direct investment. These measures that tend to increase a country's attractiveness to multinationals engaging in foreign direct investment include the various recommendations stated above such as creating an attractive domestic policy environment and hospitable regulatory framework for foreign investment (such as open trade regime and continued progress in privatization programs), the large market size (indicated by a country's gross domestic product), and favourable economic environment (which increases the prospect for growth) in the foreign direct investment recipient countries. Indeed, experience suggests that Nigeria can increase its attractiveness to foreign direct investors by reducing the impediments to capital movements.

The impact of Foreign Direct Investment on economic can only be positively felt if and only if the Nigerian government ensure the effective implementation of the various policy that can reap the benefits of Foreign Direct Investment.

References

- [1] Akinlo A, E (2004), "Foreign Direct Investment and Growth in Nigeria". An empirical investigation. *Journal of Policy Modeling*, 26 (2004) 627-639
- [2] Ariyo, A. (1998), "Investment and Nigeria's economic growth". In *Investment in the Growth Process Proceedings of Nigerian Economic Society Annual Conference 1998*, pp. 389-415. Ibadan, Nigeria.
- [3] Asiedu, E (2001), "On the Determinants of Foreign Direct Investment to Developing Countries: Is Africa Different?" *World Development*, 30(1): 107-19
- [4] Asiedu, E (2003), "Capital Controls and Foreign Direct Investment". *World Development*, 32(3): 479-90.
- [5] Barro, R.J. and X. Sala-i-Martin, (1995), *Economic Growth*, New York: McGrawHill.
- [6] Bende-Nabende, A, Bhinda et al and J.L. Ford (1998), "FDI, Policy Adjustment and Endogenous Growth: Multiplier effects from a small dynamic model for Taiwan 1959-1995". *World Development* 26(7): 1315-30.
- [7] Bende-Nabende, A.J. Ford, S. Sen and Slater J. (2002), "Foreign Direct Investment in East Asia: Trends and Determinants". *Asia Pacific Journal of Economics and Business* 6(1): 4-25.
- [8] Bengoa, M. and Blenca Sanchez-Robles (2003), "Foreign Direct Investment in Freedom and Growth: new evidence from LatinAmerica," *European Journal of Political Economy*. Vol. 19 (2003) 529-545.
- [9] Buckley, P. J., J. Clegg, and C. Wang (2002): "The impact of inward FDI on the performance of Chinese manufacturing firms," *Journal of International Business Studies*, 33(4), 637-655.
- [10] Carkovic, M and R. Levine (2002), "Does Foreign Direct Investment Accelerate Economic Growth? working Paper (University of Minnesota Department of Finance, available at: www/ssm.com/abstract-314924).
- [11] Caves, R.E. (1996), "Multinational Enterprises and Economic Analysis". 2nd ed. Cambridge: Cambridge University Press.
- [12] Choe, J. J. (2003), "Do Foreign Direct Investment and Gross Domestic Investment Promote Economic Growth?" *Review of Development Economics*, 7, 1, 44-57.
- [13] De Gregorio, Jose. (2003), "The role of foreign direct investment and natural resources in economic development". Working Paper No 196. Central Bank of Chile, Santiago.
- [14] De Mello, L.R. (1997), "Foreign Direct Investment in Developing Countries and Growth". A Selective Survey, the *Journal of Development Studies*. Volume 34 No. 1, pp.1-34 24
- [15] De Mello, L.R., (1999), "Foreign Direct Investment-led Growth". Evidence from time series and panel data, *Oxford Economic Papers* 51, Oxford University Press, pp. 133-15
- [16] Dees. S. (1998), "Foreign Direct Investment in China: Determinants and effects". *Economics of Planning*, 31: 175-94.
- [17] Eller, M. P. Haiss, and K. Steiner (2005), "Foreign Direct Investment in the Financial Sectors: The Engine of Growth for Central and Eastern Europe?" *EuropaInstitut Working Paper No. 69*, Vienna University of Economics and Business Administration.
- [18] Engle R.F., and Granger, C.W.J. (1987) "Co-integration and Error Correlation: Representation, Estimation and Testing". *Econometrics*, Vol. 55 251-276
- [19] Hansen, H. and J. Rand (2006), "On the Casual Links between FDI and Growth in Developing Countries", *World Development* 29, 21-41.
- [20] Johansen and Juselius (1990) *Introduction to Co-integration analysis*, 2nd edition, Pg 33-51, Machill Publication.
- [21] Mankiw et al (1992) *Productivity and Human capital*, a journal of Southgate college, India, Vol 6, pg 233-254, Southgate Publication.
- [22] Morriset, J. (2000), *Foreign Direct Investment in Africa Policy also matters*. *Transnational corporations*, 9(2): 107-25

An Econometrics Analysis Of Foreign Direct Investment On Economic Growth In Nigeria.

- [23] Obwona, M (2001), "Determinants of FDI and their Impact on Economic Growth in Uganda". African Development Review13, 46-81
- [24] Obwona, Morios B, (2004), "Foreign Direct Investment in Africa," In financing pro poor Growth: AERC Senior Policy Seminar VI, Kampala, Uganda, 2-4 March 2004-Seminar papers, pp. 60-95. Nairobi: African Economic Research Consortium.
- [25] Odozi, V.A. (1995), "An Overview of Foreign Investment in Nigeria (1960-1995). Occasional Paper No.11 Research Department, Central Bank of Nigeria
- [26] Otepola, Ayorinde. (2002), FDI as a Factor of Economic Growth in Nigeria. Dakar, Senegal: African Institute of Economic Development and Planning (IDEP), May. Available online from idep@unidep.org. <http://unidep.org>
- [27] Romer, P. (1986), "Increasing Returns and Long Run Growth", Journal of Political Economy, 94: 1002-38.
- [28] Romer, P. (1990), "Endogenous Technological Change", Journal of Political Economy, 98: s71 s103.
- [29] Sheikh, A. (1978), "Foreign Trade and The Law of Value Part 1, Science and Society, New School for Social Research. New York.
- [30] Solow, R. (1999), Foreign Direct Investment in Africa: Performance and Potential. United Nations Publications UNCTAD/ITE/IIT/Misc. 15, New York and Geneva: United Nation.