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Full Length Research Paper

Foreign direct investment and the challenges of sustainable development in Nigeria

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Abstract

The research paper is sets out to examine the impact of foreign direct investment on Nigeria economic growth and development. It specifically seeks to ascertain to examine the nature, trend and sectoria Inflow of Foreign Direct Investment in relation to the economic growth in Nigeria and identify the impact of FDI on some macro-economic indicators. Data for the study were extracted from Central Bank of Nigeria's Statistical Bulletin volume 18, (2009) during the period 1970-2010. The co-integration and error correction model were used to test the long-run relationship between the dependent and independent variables the ADF and PP was used in testing for the unit root. The results revealed that there exist a long-run relationship between the dependent and the explanatory variables. The results conform to the economic a priori expectation. Finding shows that Gross Capital Formation has a positive and significant relationship with the economic growth. Based, on the findings of this research, we therefore, recommended that capital formation encourages economic growth via savings accumulation visa vise, increase in the gross domestic investment. Also, there is need for constructive attention to be given to provision of needed infrastructure, especially power generation and distribution, to enhance economic growth and development.

Keywords: FDI, macro-economic indicators, economic growth, unit root, co-integration.

INTRODUCTION

Foreign direct investment is increasing in importance in the global economy due to the additional resources they pooled for development in the host country. They have also attracted great controversy concerning their positive or negative contributions to economic development of the host country In recent years foreign direct investment (FDI) have attracted renewed interest both in the underdeveloped and developed countries. Even at the United Nations conference on trade and development (UNCTAD) and now world trade organization (WTO) there has been growing suspicious about foreign direct investment (Anyanwu (1998))

Foreign direct investment refers to the ownership and control of decision-making in an enterprise located in one country by investor escheated in another country. A larger share of FDI is made by enterprise called Multinational corporations (MNEs) or enterprise (MNES).Multinational corporations are essentially those that own or control production facilities in more than one country. (MNCS cannot exist without their having been FDI in the first instance, their intriguing operation of the MNE, is that they provide FDI, often using capital raised in the domestic capitals market rather than in the capital market of their investment.

Furthermore, foreign direct investment has attracted the attention of most governments. First is the desire to extend the market system because many developing countries are heavily indebted externally. The problem of external debt burden is not solved by borrowing more but by attracting more private flows in the form of FDI. This enhances the market systems, secondly deals with the need to fill the foreign exchange gap. In the face of

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serious resources gap or saving gap the country has to find one way or the other of filling the gap. One way of doing so is to attract foreign direct investment into the country.

Y=C+1+G+X+M ------(1) Macro identify

Y – C = S ---------- (2) Saving

S = 1 + G + XM ------ (3)

(SP 1P) + (SG 1P) = XM ------ (4)

S – 1 = XM ------ (5)

Where Y = GDP, C = Consumption, 1 = investment

G = government expenditure, X export, M = import

SP, SG = private and government savings respectively, 1p, 1 private and government investment respectively. Thus, if investment is greater than savings current account deficit results which may be filled by inform of foreign direct investment.

However, the concerns package form of foreign direct investment which unblended in more favourable to the host country than other forms of capital. With foreign direct investment both exchange rate risk and commercial risk are passed on to the invertors rather than being borne by the host government. It also help to complement government reform policies of economic openness and trade liberalization Therefore, the major objective of the paper is to look at the impact of foreign direct investment and the issue of sustainable development of Nigerian economy.

Theoretical frameworks

Impact of FDI on Economic Growth in Nigeria

Nigeria as a country, given her natural resource base and large market size, qualifies to be a major recipient of FDI in Africa and indeed is one of the top three leading African countries that consistently received FDI in the past decade. However, the level of FDI attracted by Nigeria is mediocre (Asiedu, 2003) compared with the resource base and potential need.

There have been some studies on investment and growth in Nigeria with varying results and submissions. For example, Odozi (1995) reports on the factors affecting FDI flow into Nigeria in both the pre and post structural adjustment programme (SAP) eras and found that the macro policies in place before the SAP were discouraging foreign investors. This policy environment led to the proliferation and growth of parallel markets and sustained capital flight. Aluko (1961) reports positive linkages between FDI and economic growth in Nigeria. Endozien (1968) discusses the linkage effects of FDI on the Nigerian economy and submits that these have not been considerable and that the broad linkage effects were lower than the Chenery– Watanabe average (C henery and Watanabe, 1958) found that FDI is positively associated with GDP, concluding that greater inflow of FDI will spell a better economic performance for the country. Ariyo (1998) studied the investment trend and its impact on Nigeria's economic growth over the years. He found that only private domestic investment consistently contributed to raising GDP growth rates during the period considered (1970–1995).

Furthermore, there is no reliable evidence that all the investment variables included in his analysis have any perceptible influence on economic growth. He therefore suggests the need for an institutional rearrangement that recognizes and protects the interest of major partners in the development of the economy. Examining the contributions of foreign capital to the prosperity or poverty of LDCs, Endozien (1968) conceptualized foreign capital to include foreign loans, direct foreign investments and export earnings. Using Chenery and Stout's two-gap model (Chenery and Stout, 1966), he concluded that FDI has a negative effect on economic development in Nigeria. Further, on the basis of time series data, Ekpo (1995) reports that political regime, real income per capita, rate of inflation, world interest rate, credit rating and debt service were the key factors explaining the variability of FDI into Nigeria.

Adelegan (2000) explored 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 negatively related to gross domestic investment. Akinlo (2004) found that foreign capital has a small and not statistically significant effect on economic growth in Nigeria. However, these studies did not control for the fact that most of the FDI was concentrated in the extractive industry. In other words, it could be put that these works assessed the impact of investment in extractive industry (oil and natural resources) on Nigeria's economic growth.

On firm level productivity spillover, Ayanwale and Bamire (2001) assess the influence of FDI on firm level productivity in Nigeria and report a positive spillover of foreign firms on domestic firm's productivity. Much of the other empirical work on FDI in Nigeria centred on examination of its nature, determinants and potentials. For example, Odozi (1995) notes that foreign investment in Nigeria was made up of mostly "Greenfield" investment, that is, it is mostly utilized for the establishment of new enterprises and some through the existing enterprises. Aremu (1997) categorized the various types of foreign investment in Nigeria into five: wholly foreign owned; joint ventures; special contract arrangements; technology management and marketing arrangements; and subcontract co-production and specialization.In his study of the determinants of FDI in Nigeria, Anyanwu (1998) identified change in domestic

investment, change in domestic output or market size, indigenization policy, and change in openness of the economy as major determinants of FDI. He further noted that the abrogation of the indigenization policy in 1995 encouraged FDI inflow into Nigeria and that effort must be made to raise the nation's economic growth so as to be able to attract more FDI.

Aremu, (1997) assessed the magnitude, direction and prospects of FDI in Nigeria. They noted that while the FDI regime in Nigeria was generally improving, some serious deficiencies remain. These deficiencies are mainly in the area of the corporate environment (such as corporate law, bankruptcy, labour law, etc.) and institutional uncertainty, as well as the rule of law. The establishment and the activities of the Economic and Financial Crimes Commission, the Independent Corrupt Practices Commission, and the Nigerian Investment Promotion Commission are efforts to improve the corporate environment and uphold the rule of law. Has there been any discernible change in the relationship between FDI and economic growth in Nigeria in spite of these policy interventions

Justification of the variables used in the study

A unique way of conceptualizing the impacts of FDI on the economic growth in Nigeria especially in the era of globalizations is to analyze the impacts of FDI on certain macroeconomic variables There is therefore the need to briefly elucidate herein the analytical framework underlying the macroeconomic variables that are determinants of growth in a developing country like Nigeria.

Real gross domestic product

The meaning of growth is fairly unambiguous namely, a rise in money income deflated by an index of prices. Economic growth simply refers to an increase in the income of a nation over a period of time. The main springs of growth is well known; increase in the quantity and quality of resources of all kinds. Countries are poor because they lack resources or the willingness and ability to bring them into use. Economic growth measures the material well being in an economy. Growth is ordinarily an important and necessary element of development. Without growth, development cannot take place. Economic development means a lot more than growth.

Gross capital formation

This captures all the real-value-added to the economy in real-asset-terms which will lead to further enhancement of savings, investment and generation of more wealth in future. It is defined as an addition to stock of capital assets set aside for future productive endeavours in real sector which will lead to more growth in physical capital assets of the country. Gross Capital Formation is measured by the total value of a producers acquisitions, less disposals of fixed assets during the accounting period plus certain additions to the value of non-produced assets (such as subsoil assets or major improvement in the quantity, quality or productivity of land) or realized by the productive activity of institutional units. It has a positive impact on private savings accumulation in the sense that increase in capital formation will lead to more savings. When savings accumulate it will lead to an increase in gross domestic investment (GDI) and income generated as a result of the investment projects made will, in turn, led to GDP growth (Anyanwu,1998).

Inflation rate

We included the inflation rate as a measure of overall economic stability of the country. Inflation can simply be said to mean a general and continuous increase in the prices of goods and services. The maintenance of price stability is one of the principal objectives of macroeconomic management. In inflationary economy, it is difficult for money to act as a medium of exchange and store of value without adverse effects on output, employment and real income. (CBN, 1998)

Inflation can simply be said to mean a general and continuous increase in the prices of goods and services. For the purpose of this research work the relationship between economic growth and inflation and causes shall be examined under the contending views of monetarists and structuralists. The structuralists explain the long run inflationary trend in developing countries in terms of structural rigidities: market imperfection and social tensions (relative inelasticity of food supply foreign exchange constraints, protective measures, rise in demand for food, import substitution, industrialization, political instability e.t.c). Besides, they also concluded that moderate inflation is one of the indexes of economic growth.

Infrastructural development

Good infrastructure facilitates production, reduces operating costs and thereby promotes FDI. Infrastructure increases the productivity of investment and thereby enhances economic growth. Some of the measures of infrastructure in literature include electric power transmission and distribution losses, number of

telephones per 1,00 population and gross fixed capital formation. Given the availability of data, we used electric power consumption as a proxy for this variable. The variable is measured as per capital electricity power consumption. This measure takes care of availability and we expect a direct relationship between this measure and economic growth. (Wheeler and Mody, 1992)

Political risk

It is widely acknowledged that when a country is politically unstable its economic growth is hindered. Political risk is usually measured by the probability of a change of government, as well as [political violence as measured by the sum of frequency of political assassinations, violent riots and politically motivated strikes. Easterly and Levine (1997) and Anyanwu (1998) used the number of coups d'etat a country suffers to measure political instability. we used dummy variable in this study given unavailability of data.

Government size

This is measured as the ratio of government consumption to GDP. It is expected to bear a direct relationship to economic growth. This is because higher level of government consumption should translate into provision of more social capital that should encourage production and growth.

Human capital

The importance of education to economic growth is proxied by the ratio of secondary and tertiary institution enrolment in the population. Barro and Lee (1994) and Akinlo (2004) included this variable in their growth equation and found a direct relationship. Bende-Nabende and Ford (1998) found an indirect relationship between human capital and growth in Taiwan.

Degree of openness

We use the degree of openness to measure the extent of globalization or openness of an economy to the rest of the world. Openness of the host economy to trade is the ratio of trade (imports and exports) to GDP used to capture this variable as is standard in the literature. FDI inflows are expected to result in improved competitiveness of host countries exports. As exports and investment increase, they will have a multiplier effect on GDP. Increased exports and investments may also generate foreign exchange that can be used to import capital goods. Further, if the additional investment embodies neutral labour intensive techniques, employment will rise. .

METHODOLOGY

To achieve the stated objectives of the study, annual time series data of the variables were used. The data were sourced from the Central Bank of Nigeria's Statistical Bulletin, the International Monetary Fund's International Financial Statistics (CD-ROM 2009) and the World Bank's World Development Indicators 2009.

$Y_t=\beta+\alpha_1 Y_{t-1}+ \alpha_2 Y_{t-2}+.....\alpha_p Y_{t-p}+U_t$ .....(1),

where U_t is a white noise disturbances term. Hence equation(1) can take this shape.

$Y_t=B+\sum\alpha_1 Y_{t-1}+U_t$.....(2),

Where b is a constant and α_1-------α_p are parameters of the model $\sum^p{}_{i=1}\ Y_t = B+\alpha L^i Y_t U_t$.....(3)

As log operator

$A(L)=(1-\alpha_1 L-\alpha_2 L^2.....\alpha_p L_p)$.....(4)

If U_t is a white noise process with $E(U_t)=0$ and V at $(U_t)=\theta^2 Y_t=B+U_t+\alpha_1 U_{t-1}+\alpha_2 U_{t-2}+.....+\alpha_q U_{t-q}$.....(5)

$Y_t=B+\sum^q{}_{i=1}\alpha_1 U_{t-1}+U_t$.....(6)

A linear combination of white noise process such that Y_t is a function of current and lagged values of a white noise disturbance process(Brook, 2008). Equation can be rewritten with the lag operation notation.

$Y_t=B+\sum^q{}_{i=1}\alpha L^i U_t+U_t$.....(7)

$Y_t=B+\alpha_1 Y_{t-1}+\alpha_2 Y_{t-2}+-----\alpha_p Y_{t-p}+\alpha_1 Ut\text{-}1+\alpha_2 U_{t-2}+------\alpha_q U_{t-q}+U_t$.....(8)

Where

$E(U_t=0)$; $E(U_t^2)=\theta^2$; $E(U_t U_s)=0$, $t\neq s$.

Stationarity in a time series data is a desirable property for an estimate AR model. This is because a model whose co-efficients are non-stationary will have a non-declining effects on the current values of the dependent variable as time progress which is counter-productive, empirically defective and could lead to spivicus regressions. In this staning, the Augmented Dickey-fuller(ADF) and Philips-Perron (PP) unit root test are employed to handle the problem of data stationarity.

$Y_t=B+\alpha Y_{t-1}+U_t$.....(9),

Where B and α are parameter of the model and U_t is a white noise disturbance term.

If and only if, -1</α/<1, then α=1, then Y_t is a non-stationary series.

$\Delta Y=B+RY_{t-1}+U_t$.....(10)

Where R=(α-1) and the null hypothesis can be tested as

H_o: R=0

$\Delta Y_t=B+RY_{t-1}+\sum^p{}_{i=1}\Delta Y_{t-1}+U_t$.....(11)

Table 1. Level series OLAS multiple Regression Summary Results. Dependent Variable: lnGDP. Method: Least Squares

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3.560437	2.758538	1.290697	0.0207
LnFDI	0.70412	0.380947	1.849892	0.0749
LnGOVS	0.300916	0.669444	0.449501	0.6565
LnGCF	0.438375	0.330659	1.325759	0.1956
LnINFD	0.233831	0.076796	3.044820	0.0050
LnINF	-0.603713	0.343058	-1.759799	0.0894
LnHCAP	0.294439	0.245449	-1.199592	0.2404
lnOPEN	-0.414585	0.121929	-3.400206	0.0020
LnPOL	-1.173179	0.318384	-3.684793	0.0010
R-squared	89.3726	Mean dependent var	5.933368	
Adjusted R-squared	88.1710	S.D dependent var		2.440057
S.E of regression	0.222168	Akaike info criterion		0.050171
Sum squared resid	1.382045	Schwaz criterion		0.481115
Log likelihood	9.046750	F-statistic		443.789
Durbin-Watson stat.	1.585730	Probability (F-stat.)		0.000000

Source: Authors' computation, 2012

Table 2. Unit Root Test Summary Results

Variables	ADFTest: 2nd Diff. Statistics	PP Test: 2nd Diff. Statitics	Order of integration
LnGDP	-5.669332	-13.19446	1(2)
LnFDI	-5.307623	-8.277836	1(2)
LnINF	-8.547662	-16.17624	1(2)
lnINFD	-7.813461	-18.42792	1(2)
lnGOVS	-6.247241	-7.382012	1(2)
LnGCF	-7.772326	-16.57801	1(2)
lnHCD	-8.733000	-15.11812	1(2)
lnOPEN	-7.511231	-18.30047	1(2)
lnPOL	-6.928203	-13.29821	1(2)
RESID	-9.450283	-18.66942	1(2)

Source: Authors' computation, 2012. Critical Values: (ADF): 1% -3.6289; 5% -2.9472; 10% -2.6118. (Phillips-Perron): 1% -3.6228; 5% -2.9446; 10% -2.6105

Therefore in order to be sure that the problem of errors uncorrelated the lagged term are included.

The study also adopted Engle and Granger(1987) co-integration.

$Y_t=B_o+B_iX_t+U_t$.....(12)

$U_t=Y_t-B_o-B_iX_t$.....(13)

THE MODEL:

GDP = f(FDI,, INF, GCF, INFD, GOVS, HCAP, POL , OPEN)

Where

GDP = Gross Domestic Product

FDI = Foreign Direct Investment

INF = Inflation Rate

GCF = Gross Capital Formation

INFDEV = Infrastructural Development

GOVS = Government Size

HCAP = Human Capital

POL = Political Risk

DOP = Degree of Openness

from the table (2), R^2 is 89.37% while the adjusted R^2 is 88.17% showing that 89.37% of the variation ion lnGDP can be explained by changes in the explanatory variables. The

Table 3. Johansen Co-integration Test: Sample: 1970-2010, Included observations: 37, Test assumption: Linear deterministic trend in the data, Series: ln(GDP) ln(FDI) ln(HCD) ln(GCF) ln(INFD) ln(INF) ln(OPEN) ln(POL), Lags interval:1 to 1.

Eigevalue	Likelihood Ratio	5% critical value	1% critical value	Hypothesis No. of CE(s)
0.981655	506.5345	233.13	247.18	None**
0.959596	370.5896	192.89	205.95	At most 1**
0.879482	261.4899	156.00	168.36	At most2**
0.821014	189.5475	124.24	133.57	At most 3**
0.780599	131.0523	94.15	103.18	At most 4**
0.646830	79.47932	68.52	76.07	At most 5**
0.421980	44.09197	47.21	54.46	At most 6
0.326396	25.45498	29.68	35.65	At most 7
0.289004	12.02115	15.41	20.04	At most 8
0.012397	0.424145	3.76	6.65	At most 9

*(**) denotes rejection of the hypothesis at 5%(1%) significant level
L.R test indicates 6 co-integrating equations at 5% significant level
Source: Authors' computation, 2012

explanatory variables lnINFD(infrastructural development),lnOPEN (degree of openness of economy) and lnPOL (political risk), are significant at 5% level of significance, while lnFDI(foreign direct investment) and lnINF(inflation) are significant at 10% and the rest are not. With respect to the signs and sizes of the parameter estimates, only INF and sizes of all the other independent variables are in consonance with theoretical expectation.

Furthermore the overall fit of the model is good given an F-statistics of 443.7894 (P-value=0.0000)

However, the DW-statistics is found to be 1.58730 which is higher than 1.5, the adjusted R^2 value of 88.1710 and lies between the D-W critical values of 1and 2, suggesting the presence of some degree of positive autocorrelation in the level series. This indicates that there may be some degree of time dependence in the level series which could lead to spurious regression results, suggesting the need for more rigorous analysis of the stationarity of level series data.

Testing for unit root

In view of the time dependent feature of our data, the variables were tested for unit root using both the ADF and PP tests at the level, first difference and second difference series. The results of the unit root tests are presented in Table 2 below.

Table 2 above presents the summary results of both the ADF and PP unit root tests. The result of the unit root tests show that the null hypothesis of a unit root test for second difference series for all the variables can be rejected at all the critical values indicating that the level series which is largely time-dependent and non-stationary at the second difference and maximum lag of one. Thus, the model follows an integrating order of 1(2) process and is therefore a stationary process. From table 2 above also, the test of stationarity in the residuals from the level series regression is significant at all lags.

Co-integration test

Applying the Johansen co-integration test, we find that the null hypothesis of no co-integration is rejected and we conclude that the variables are co-integrated in the long run. To determine the number of co-integrating equations, we employ the Johansen(1991) test for co-integrating vectors in a VAR system. The test assumption as shown in table below is linear deterministic trend in the data lag interval of 1 to 1.

Table 3 above shows the results of the Johansen co-integration test. The null hypothesis of at most 5 co-integrating equations is rejected at 5% level of significance and hence the alternative hypothesis of at most 6 co-integrating equations at the 5% level of significance is accepted. This implies that there are 6 linear combinations of the variables that are stationary in long run.

Error correction model (ECM)

To further the analysis of the long run relationship, the FDI-growth model under investigation is then specified in a VECM incorporating a two-period lagged residual. The VECM is employed to capture the short-run deviations of the parameters from the long run equilibrium. The autoregressive distributed lag technique was used with a maximum lag of 1 to obtain an

Table 4. Over-parameterized result, Dependent Variable: D(D(lnGDP), Method: Least Squares, Sample(adjusted): 1973-2010, Included observations: 35, Excluded observation: 4 after adjusting endpoints.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.005854	0.030685	-0.190793	0.8522
D(D(ln(GDP(-1))))	-0.312107	0.208813	-1.494670	0.1631
D(D(ln(POL)))	-1.823699	0.472870	-3.856661	0.0027*
D(D(ln(POL(-1))))	-0.769175	0.358770	-2.143922	0.0552**
D(D(ln(OPEN)))	-0.392777	0.185573	-2.116561	0.00579**
D(D(ln(OPEN(-1))))	-0.033600	0.129880	-0.258700	0.8006
D(D(ln(FDI)))	-0.199161	0.239905	-0.830167	0.4241
D(D(ln(FDI(-1))))	-0.231023	0.539318	-0.428361	0.6767
D(D(ln(HCD)))	-0.130497	0.203425	-0.641498	0.5343
D(D(ln(HCD(-1))))	-0.253702	0.196988	-1.287908	0.2242
D(D(ln(GOVS)))	2.056782	1.476954	1.392583	0.1913
D(D(ln(GOVS(-1))))	0.703733	1.193636	0.589571	0.5674
D(D(ln(GCF)))	0.039202	0.234434	0.167218	0.8702
D(D(ln(GCF(-1))))	-0.170705	0.331809	-0.514468	0.6171
D(D(ln(INFD)))	0.063621	0.066071	0.962915	0.3563
D(D(ln(INFD(-1))))	0.026474	0.063015	0.420117	0.6825
D(D(ln(INF)))	0.037198	0.257857	0.144258	0.8879
D(D(ln(INF(-1))))	0.315051	0.372870	0.844935	0.4161
ECM(-2)	-0.246881	0.354527	-0.696367	0.5006**

Source: Authors' computation, 2012, R-squared 0.785150 Mean depedent var-0.007523, Adjusted R-squared 0.676332 S.D depedent var 0.287672, S.E of regression 0.153662 Akaike info criterion-0.537370, Sum squared resid 0.284637 Schwarz criterion 0.424519, Log likelihood 27.59792 F-statistic 4.238864 Durbin-Watson stat I.9954 Prob(F-statistic) 0.007741

*(**) significant at 5% (10%)

over-parameterized result(table 5) and then arriving at the parsimonious error correction result using the general-specific approach as presented in table 4

The parsimonious error correction result indicates a good fit with an F-ratio of 4.238864, and a p.value of 0.00774 an R^2 of 72.31% and an adjusted R^2 of 59.07%, meaning that the model explains approximayely 72.31% of the variations in GDP. In addition, INF exert positive and significant impact on economic growth (GDP) in the model, while the one-period lag of GDP, DGR,(as well as DGR unlagged) and HCD exert negative and significant influence on GDP. The while GOVS (the number of listed securities) impact positively but insignificantly on economic growth. The D-W statistic is approximately 2.00 and shows absence of autocorrelation.

The error correction term (ECM) is low, has the appropriate negative sign and shows that approximately 47.9% of the deviation from the long-run equilibrium in the capital market-growth model is corrected bi-annually by investment activities

DISCUSSIONS OF RESULTS

With respect to the level of series regression, the results show that the infrastructural development (INFD) is positively and significant1y related to GDP while the degree of openness of the economy (OPEN) and political risk (POL) impact negatively and significantly on GDP. Foreign direct investment (FDI), Government size (GOVS), Gross capital formation (GCE), inflation (INF) human capital development (HCAP) are not significant explanatory variables in the model. Overall, the leve1 series multiple regressions show a high R^2 of 99.37%, an adjusted R^2 of 88.17% and a D-W statistic of 1.98 (very close to 2.00). However, given the non-stationary feature of the level series data, the application of the ADF and PP unit root tests indicate that the series are an integrating I (2) process. The Johansen co-integration test conducted indicates the existence of 6 co-integrating equations in the model meaning that there exists a long-run relationship among the variables.

The results of the parsimonious error correction model show the short-run dynamic adjustment of the variables in the second difference model. The one-period lag of inflation (at 10%), human capital development and political risk are significantly associated with changes in

TABLE 5. Parsimonious error correction result**.** Dependent Variable : D(D(In(GDP)))) Method : Least Squares**,** Sample (adjusted) : 1973-2010**,** Included observations : 37**,** Executed observations : 1 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.015596	0.031140	0.500822	0.6213
D(D(In(GDP(-1))))	-0.562467	0.142630	-3.943539	0.0006*
D(D(In(POL(-1)))	-0.861583	0.310343	-2.776232	0.0107*
D(D(In(POL(-1))))	-0.702870	0.242973	-2.892790	0.0082*
D(D(In(OPEN))))	-0.119907	0.077189	-1.553418	0.1340
D(D(In(FDI)))	-0.128479	0.100797	-1.274631	0.2152
D(D(In(HCD(-1))))	-0.448422	0.165942	-2.702288	0.0127*
D(D(In(GOVS))))	1.135747	0.760245	1.493922	0.1488
D(D(In(GCF(-1))))	-0.151253	0.076893	-1.967071	0.0614**
D(D(In(INF(-1))))	0.198733	0.090657	2.192139	0.0388*
ECM(-2)	-0.478747	0.248325	-1.927903	0.0663**

Source: Author's Computation 2012, R-squared 0.723114 Mean dependent var, 0.005358, Adjusted R-squared 0.590690 S. D. dependent var 0.282967, S. E. of regression 0.180971 Akaike info criterion-0.315099, Sum squared resid 0.753262 Schwarz criterion 0.218163 Long likelihood 17.51423 F-statistic 5.460598, Durbin-Watson stat 1.990834 Prob(F-statistic) 0.000211 *(**) sig. at 5% (10%)

economic growth. This means that an increase in inflation change significantly increases GDP just as a substantial political risk (decrease in POL) significantly leads to improvements in GDP as presented in Table 5. The error correction variable (ICM) is appropriately signed significant and demonstrates that approximately 47.9% of disequilibrium in the model is corrected bi-annually by changes in the explanatory variables.

The policy implications of the above findings are that the regulatory authorities in Nigeria should intensify efforts towards installing a conducive and enabling environment, inclusive of more reforms, for the sustained growth in foreign direct investment, given the significant long- run relationship between foreign direct investment variables and economic growth as demonstrated in this study. In addition, policy initiatives involving exchange rate, government regulation and openness of the economy should be appropriately incorporated in the reforms as these control variables have been shown in this study to impact significantly on growth.

CONCLUSIONS

This paper set out to investigate in the main whether there is a long run relationship between foreign direct investment activities and economic growth in Nigeria. Johansen co-integration test was adopted, for the period 1970-2010. The lack of consensus in the literature of financial economics with respect to the nature and degree of relationship between foreign direct investment and sustainable development. Though, many works have looked the nexus between foreign direct investment and economic growth.

The estimated regression shows the relationship between Gross Domestic Product as the dependent variable and the Gross Capital formation, inflation rate, foreign Direct Investment, Degree of openness, infrastructural Development, Government size, political risk and human capital as the independent variables. The results show that Inflation Rate, Infrastructural Development, Human Capital had the expected relations with GDP in the while only Gross Capital Formation, and Foreign Direct Investment had the expected relations with GDP Therefore, when the Nigerian economy is open up to the rest of the world will lead to sustainable growth and development.

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