FOREIGN DIRECT INVESTMENT FLOW AND MANUFACTURING SECTOR PERFORMANCE IN NIGERIA

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Abstract

This study assesses the impact of foreign direct investment flow on the performance of the manufacturing firms in Nigeria. Using manufacturing value added (MVA) for the performance of manufacturing firms, time series data was compiled from World Bank and Central Bank of Nigeria Statistical Bulletin spanning for a period of 40 years. The researcher used an OLS estimate with FDI modeled as a quadratic function to account for its turning point and the VECM to ascertain both the long run and the short run causalities running from the explanatory variables to dependent variable. The results obtained suggest the need for Government actions to be geared towards strategically maintaining and sustaining policies that will help encourage FDI inflows especially in the long run since a positive effect on the manufacturing value added was only feasible in the long run as well as promoting an efficient and enabling macroeconomic environment on which manufacturing firms can thrive. Also the need to embark on domestic investment as well as improve human capital skill was buttressed.

Keywords: FDI, Manufacturing, Nigeria, OLS, Export Promotion

INTRODUCTION

One of the major objectives of every economy is to achieve a high economic growth that will lead to a rapid economic development through poverty reduction, creation of employment opportunities and the entire promotion of the welfare of the citizenry. Virtually, almost all development theories believe that this economic growth can be achieved through the

accumulation of physical and human capital among other things. Hence, the accumulation of capital can come in the form of Foreign Direct Investment (FDI) and Domestic Investment which are the central issues on which this research work revolves.

The Nigerian economy has been one of the highest recipients of capital inflow from the rest of the world (CBN Statistical Bulletin 2010). The reasons behind this are undoubtedly the large market size of the economy, the level of its trade openness among other reasons. But recent events in the country show that such benefit might not be sustained given the present socio-political upheaval from the sect of some anti-social group popularly known as the 'Boko Haram' in the country which is highly detrimental to the economic health of the nation as well as the entire growth of the country. The effect of this among others is a kind of a snail movement of the development process and eventually a complete overhauling of the entire system, lack of industrialization, capital flight, and absence of technology transfer. Take for instance, the level of Nigeria's share of Foreign Direct Investment (FDI) inflows to Africa fell from 35.3% in 1990 to 13.6% in 2000 then rose to 16.3% in 2005 and stood at 14.1% in 2010 (CBN Statistical Bulletin 2010). Hence, the macroeconomic environment of the country is no longer conducive for investors to thrive and no one will like to invest in a place where he will suffer capital loss no matter how promising and profitable it appears. In addition to what has been said so far, attempts will be made in the literature to unravel the cause of this volatility and unstable flow of FDI to Nigeria and the consequences of such volatility of overall economic progress in the country; among issues investigated is the effect of global economic policy shocks and uncertainty. Theoretically, uncertainty may adversely affect FDI inflows. However, while attention is paid to several other issues on the cause of the deteriorating inflow of FDI and other capital flows to Nigeria, little attention is given to the effects of domestic economic and political uncertainties on FDI inflows in Nigeria.

Chenery and Strout 1966 posited that FDI inflow is expected to transfer technology, as well as increase managerial and marketing skills to domestic industries in order to enhance their productivity and economic growth to the wider economy of the host nation. It is evident that in recent times, Foreign Direct Investment (FDI) has become the most important source of external resource flows to developing countries and plays an extraordinary role in globalization.

Thirlwall (1985) refers to FDI as investment by multinational companies with headquarters in developed countries. This investment involves not only a transfer of funds and the reinvestment of profits but also a whole package of physical capital, techniques of production, managerial and marketing expertise, products advertising and business practices for the maximization of global profits. The World Trade Organization (1996) observes that FDI

occurs when an investor based in one country which is the home country, acquires an asset in another country with the interest to manage that asset.

The major players in FDI are the Multinational Corporations (MNCs). All of the top ten and 90% of the top hundred MNCs are from the United States, Japan, and the European Union (UNCTED 2002). Given the predominance of MNCs, a conventional definition of FDI is a form of international that involves significant equity stake and effective management decision power in or ownership control of foreign companies (De Mello, 1997, p. 135).

Statement of the Problem

Given the economy's weak technological and industrial base, industrial activities were organized to depend largely on imported inputs and Nigeria has employed a number of strategies aimed at attracting FDI flows and to enhance the performance of the manufacturing sector, in order to increase economic growth and development. However, as a result of the collapse of the world oil market in the early 1980s which is the major source of the country's foreign earning, there was a drastic reduction in the earning from oil exports. As a consequence, the import dependent industrial structure that had emerged, could not be sustained as earning from exports became inadequate to pay for the huge import bills. All the policy measures adopted to improve the situation such as the stabilization measure of 1982, as well as the restrictive monetary policy and stringent measure of 1984, however, failed. This led to the introduction of the Structural Adjustment Program (SAP) in 1986 whose main aim is to reduce the high dependency of the economy on crude petroleum as a major foreign exchange earner by promoting non-oil exports particularly manufacturing goods. Although these went a long way in attracting FDI flows into the economy, as the country becomes the second largest recipient of FDI flows among low-income countries (CBN Statistical Bulletin 2010). But the Nigeria manufacturing sector's performance has declined steadily, meaning that improving the Nigeria manufacturing sector does not depend largely on attracting FDI flows and raising the level of saving as many literatures suggests (Fabayo, 2003: (Nnanna, et al, 2004), but it depends mainly on the accumulation and efficient utilization of Human Capital Skill.

It is worthy to note here that insufficient or complete lack of human capital skills widens the technological gap between the domestic firms and foreign firms. Without the accumulation of knowledge through sound and qualitative education there is no foundation on which implant technology and the manufacturing sector can grow or even survive. This supports the findings of Borenztein, 1998; and UNCTAD, 1999 that the positive effect of FDI inflow on manufacturing sector's growth is dependent on the presence of skills that facilitate the absorption of new knowledge. Other studies have also observed an insignificant or adverse effect of FDI inflow on

low-income countries and a more favourable effect on middle-income countries as a result of difference in the level of human capital development or skills.

To further strengthen our proposition that skill acquisition should precede FDI inflow, the report from ODI (1997) noted that Nigeria was the second largest recipient of FDI among low-income countries following China and India being behind Nigeria. But when we look at the development in these countries in comparison to Nigeria, we are far behind. Take for instance, in 2005, China had experienced spectacular economic growth, quadrupling its GDP to not only become the second largest economy in the world but has also become the manufacturing Centre of the world, producing more than 35 percent of the world output. India is closely following China as one of the largest economies of the world (CBN Statistical Bulletin 2010). The critical economic success factor in both China and India's economic explosion has been the development of human capital skills through sound and qualitative education for the manufacturing sectors.

Also, the CBN Report 2003 buttressed the point that technology is the greatest obstacle constraining productivity in Nigeria's manufacturing sector as development in technology and innovation are the primary forces of industrialization today. We cannot acquire technology without sound and qualitative education. The lack of engineers and technical staff is reported to be setting back potential foreign investment, especially in manufacturing sectors in Nigeria. Thus, given the relative increase in FDI inflow into Nigeria in 1990s in general and the diversification of FDI into the manufacturing sector in particular, what is the likely impact of FDI inflow on Nigeria's manufacturing sector? This constitutes one of the focuses of this work.

EMPIRICAL EVIDENCE

Limited number of empirical studies of the relationship between FDI and the performance of manufacturing sectors in Nigeria exists. In his work on FDI and the growth of the Nigeria economy, Otepola (2002), blamed the insignificant impact of FDI on the low level of existing human capital skill which does not encourage FDI inflow. This implies that Nigeria does not have the required sufficient human capital skill for FDI to impact the economy. Ayanwale and Bamire (2001) assessed the influence of FDI on firm level of productivity in Nigeria and found out that foreign firms have a positive effect on the productivity of domestic firms. Also Borensztein et al. (1998) examine the role of FDI in the process of technology diffusion and economic growth, they also found out a positive impact of FDI on economic growth, but opines that the extent of the impact depends largely on the amount of human capital available in the host country. In line with the view of Borensztein et al. (1998) that the extent depends on host country condition, that is human capital; the effects of human capital on growth and productivity,

export promotion, technology transfers and domestic economy have been significant through FDI. The evidence of various studies undertaken in countries with developed human capital reveal that human capital attracted FDI and subsequently, FDI impacted positively on growth and productivity. Barro and Lee (2000) also pointed out that from the mid-1980s; education increasingly turns into an important determinant in the development process and for foreign investors. The experience of Singapore, china province, Taiwan, Ireland Costa Rica, Korea, and Malaysia suggests that these countries succeeded in attracting substantial FDI through human capital development. The economic planners of these countries recognized that skill development of their workforce is necessary for a sustained growth. Singapore used education and language policies as a vehicle to produce trained and globally competitive workforce. At the outset, a large fraction of unskilled workforce and a minuscule FDI were the core resources for their industrial development, Onyeagu and Okeiyika, (2013).

Akinlo (2004) noted that export, labour, and human capital are positively related to economic growth in Nigeria. He also found that foreign capital has a small and statistically insignificant effect on economic growth in Nigeria. Balasubramanyam et al. (1996) uses cross-section data and OLS regressions to analyse how FDI affects economic growth in developing economies and finds that FDI has a positive effect on economic growth in host countries using an export promoting strategy but not in countries using an import substitution strategy. Okodua (2009) examined the sustainability of the FDI- growth relationship in Nigeria. Using the Johansen cointegration framework and a multivariate VAR within a vector error correction model, found evidence of a long-run equilibrium relationship between economic growth and FDI inflows. The study also revealed a unidirectional causality from FDI to economic growth. In his own work, Herzer et al (2006) have a slight difference from this result, looking at a cross-country study, Herzer who used a bivariate VAR modeling technique and found evidence of a positive FDI-led growth for Nigeria, Sri Lanka, Tunisia, and Egypt; and based on weak exogeneity tests, a long-run causality between FDI and economic growth running in both directions was found for the same set of countries. Oyinlola (1995), having employed Chenery and Stout's two-gap model (Chenery and Stout, 1966) observed that FDI has a negative effect on economic development in Nigeria. He hypothesized foreign capital to include foreign loans, direct foreign investments and export earnings. Adelegan (2000) investigated 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. UNCTAD, (2002) also finds a high correlation between human capital development and FDI inflows.

Oseghale and Amonkhienan (1987) believes that greater inflow of FDI will spell a better economic performance for the country having found that FDI is positively associated with gross

domestic product. Ayanwale (2007) investigated the empirical relationship between non-extractive FDI and economic growth in Nigeria. Using OLS estimates, he found that FDI has a positive link with economic growth. However, he cautioned that the overall effect of FDI on economic growth may not be significant.

Although many research work support a positive effect of foreign direct investment on growth especially in a developing economy like Nigeria, yet care should be taken in order not to make the economy completely dependent on multinational companies since their presence can be risky. In lieu of this, Adejumo (2013) states that "the presence of Multinationals in host economies can be uncertain, especially in developing economies and as a result, host economies should be able to influence the extent private investments from internationals impact on their economy. Besides, these investments should be carefully channeled to areas where comparative advantage exists, so as not to erode the capability or wherewithal of nationals. Finally, foreign private investments should complement the production efforts of the labour force in host economies, in terms of skills, technical know-how and wages; but not to erode them by unemployment (for instance undue importation of labour), underemployment (ill-positioning or underutilisation of nationals) or provision of asymmetry information or knowledge (that is, the impartation of half-hazard skills or partial training)".

THEORETICAL FRAMEWORK: Spillover Theory

Most theoretical work developed over time by different authors seem to be integrated in Dunning (1993) eclectic theory commonly called the OLI paradigm. This theory tries to explain and analyze the process of spillovers from multinationals to host country firms through industrial organization. According to Jutta Gunther, 2002; this has become the standard theoretical framework for studies on foreign subsidiaries of multinational corporations.

Dunning's eclectic paradigm has been for long an effective framework for empirical investigation of determinants of foreign direct investment, though it has some weaknesses. The basic assumption of the theory is that it tries to explain FDI and the returns on it by bringing together a set of three factors, which are: the ownership advantages of firms 'O', that is the monopolistic advantage; locational advantage factors 'L' "which concentrates on where to produce" and by the internalization factor 'I' that addresses the question of why firms engage in FDI rather than license foreign firms to use their proprietary assets (Dunning, 1993 :145); hence it is often called an OLI theory. By this, we understand that the eclectic theory hinges on a tripod set of conditions for FDI to take place; hence the issue of international value added activities. It avers that the extent, geography and industrial composition of foreign production embarked on by MNCs is determined by the collaboration among a set of three sub- paradigms. Each of

these sub paradigms has implicit implication for spillovers in the host economy. (Adejumo, 2013).

For a firm to be able to compete effectively in a foreign country, it must possess some monopolistic or competitive advantages which will compensate for any additional costs it may incur which its competitors that are home based may not incur. Such costs include: operating cost, setting up costs, etc. Some of these ownership advantages may also stem from the nationality of the firm (Dunning, 1988:20). This entails that if the foreign firm has this competitive advantage relative to host country firms, all things being equal, the greater will be the incentive for engaging in FDI rather than serve the foreign market through international trade. Therefore, the amount of investment directed towards foreign production is a function of the quantity and quality of investing firm's competitive advantages. Hence, the competitive advantage has a correlation for expected spillover benefits to local firms. Apart from knowledge spillovers, technological spillovers from FDI take place when the entry of foreign affiliates, which have typically better management and production technologies than domestic firms, increase knowledge of domestic firms, and MNCs do not fully internalize the value of these benefits (Smarzynska, 2003). In view of this, it is pertinent to note here that the relationship between the improvements of the performance of host country's locally owned industries and the inflows of FDI is the thrust of FDI incentives. Given the advanced proprietary knowledge, foreign owned firms in host countries could serve to improve host countries' industrial capability and their competitiveness by acting as a medium transferring international diffusion of skills, knowledge, and technology through linkages and spillovers (Dunning, 1996).

The second condition has to do with the location. This condition of the eclectic paradigm is concerned with the 'where' of production. MNCs will chose to produce abroad whenever it is in their best interests to combine intermediate products produced in their home country which are spatially transferable with at least some immobile factors or intermediate products specific to the foreign country (Dunning, 1988 :4). Some of the location advantages include factors endowment and availability, geographical factors or public intervention in the allocation of resources as reflected by legislation towards the production and licensing of technology, patent system, tax and exchange rate policies which a multinational would like either to avoid or to exploit (Dunning, 1977 :11). Therefore, the aspired foreign country must offer locational advantages such as low prices, affordable raw materials, lower wages and lower taxes among others. Although locational advantage does not metamorphosis automatically into spillover benefits but it really does add extensively to foreign investing firm competitive advantage. If this thing is in place, the greater is the locational preference for that country. The question here now is: what should be the extent of the local firm absorptive capacity (which is the ability of local

firms to recognize, integrate and productively use valuable new knowledge) for them to enjoy the locational advantage spillover? It has been argued that the extent of this spillover is determined by the host country's human capital, financial market development trade openness infrastructures and institutional quality.

This third factor is the internalization condition. It is the choice between investing abroad and licensing a firm to exploit Ownership advantages possessed by the licensor (Dunning 1996). The internalisation of ownership advantages occurs when the international market is not the best modality for transacting intermediate goods or services. This can reflect a possible market failure (Dunning 1988; Vernon 1983). The greater the perceived costs of market failure, the more appealing it is for MNCs to internalise their ownership advantages. When there is no external market for the firm's ownership advantages the distinction between 'Internalisation' and 'Ownership advantage' may be irrelevant. It is also correct to distinguish between the MNCs' capability to internalise the market and their willingness to do so (Dunning, 1988 :3). Here, the potential foreign investor must have the capacity to internalize its knowledge advantage. This means that it must be more efficient for the foreign investor to make use of the firm specific technology within the multinational concern through a subsidiary, because asymmetric information leads to the failure of licensing agreements. This paradigm implicitly lays the foundation for the existence of spillovers (Adejumo, 2013). This is because the desire to internalize certain firm specific advantages pre-supposes the presence of spillover possibilities. Indeed, some scholars believe that the technology packed in a foreign subsidiary cannot be completely protected from trickling down to domestic firms (Blomstrom and Kokko, 1997).

METHODOLOGY

The econometric model of multiple regression analysis was used to test the relationship between the dependent and independent variables. The short and the long run impacts of FDI inflow on Nigeria's Manufacturing sector was analyzed using the Vector Error Correction Mechanism. The researcher adopted an augmented Solow production function that makes output a function of stock of capital (Gross Capital Formation or Domestic Investment), human capital skill and productivity (Mankiw et al 1992). However, we specified domestic and foreign-owned capital stock separately in a Cobb-Douglas type production function.

Model Specification

The variables under consideration are manufacturing value added, foreign direct investment flows, labour supply (proxy by the secondary school enrollment), human capital skill (proxy with government budget on education and health), economic growth (proxy by GDP) and domestic

investment. The functional relationship between the dependent and independent variables are established as follows:

$$MVA = f(HCS_t, DI_t, RGDP_t, FDI_{t-1}, LS_t) \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots.1$$

Where; MVA = Manufacturing sector value added output

       FDI = Foreign Direct Investment Flows

       LS = labour supply (proxy by the secondary school enrollment)

       HCS = Human Capital Skill (proxy with budget on education and health)

       RGDP = Real Gross Domestic Product.

       DI = Domestic investment.

A simple linear least square is specified given the variables under consideration thus:

$$MVA_t = \beta_1 + \beta_2 logHCS_t + \beta_3 DI_t + \beta_4 logRGDP_{t-1} + (\lambda FDI_{t-1} + (1-\lambda)FDI_{t-1}^{\wedge}2) +$$
$$\beta_5 LS_{t-1} + \mu_t \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots..2$$

From equation (2), Foreign Domestic Investment is modeled as a quadratic function to account for the turning point of Foreign Direct Investment intensity that is necessary and sufficient for manufacturing firms to function in Nigeria especially in the long run. The reason for this is that empirical research in Nigeria indicated to the fact that excessive Foreign Direct Investment can cripple the performance of manufacturing firms as well as their output level. In the same vein, when Foreign Direct Investment (FDI) flows is insufficient to effect the operations of the manufacturing firms in Nigeria, it can as well hamper on its output and performance level; thereby making the economy to be over dependent on foreign sectors, hence, the need to accommodate that effect.

Estimating equation (2) will require the transformation of some of the variables like real gross domestic product and human capital skill to its log form. The reason the researchers are incorporating this measure is among others to linearize the variables as well as get them all integrated of same order since the Johansen test of co-integration will be adopted in this work.

Data Availability, Time Frame and Sources

This research work makes use of annual time series spanning from 1970 through 2013. An extensive employment of secondary data characterized the work. The required data were collected from the Central Bank of Nigeria (CBN) and World Bank Global Development Finance (WB-GDF). The analyses and empirical test of these data provided the much needed results and facts on which we based our judgment and made decisions.

Unit Root Test

There are two common problems always experienced when working with a time series data. These problems are unit root problem and long term relationship among the variables. Unit root problem arises when data used for analysis are non-mean reverting; that is does not have constant variance. When this happens, the OLS estimate will be spurious; hence it will not be reliable. A situation where all the variables may have a long run relationship could exist. This means that they go together in the long run, therefore, individual separation of the impact of the variables on each other may not be palatable. These two problems arose in this research work and they were handled using Augmented Dickey-Fuller (ADF) unit root test and the Johanson-jusilius test of co-integration approach for testing and correction of co-integrated variables. In line with Augmented Dickey-Fuller (ADF) unit root test and co-integration verification, the applied data were examined for integration and long-run relationship.

While all the data used in the analysis are stationary after the first difference, there is also evidence of long-run relationship between MVA and its explanatory variables. This is shown in table 1 where the residual of the MVA is stationary, signifying that there exists a long run relationship between MVA and its explanatory variables. This is a prerequisite condition for running an error correction model (ECM) as shown in table 3.

Co-Integration Analysis and an Error Correction Mechanism

In other to solve the second problem of time series data and to ascertain the number of co-integrating vectors, Johansen cointegration approach was adopted on the basis of trace statistics and maximum Eigen statistics.

Having established the long run relationship among the variables used in this model, we estimate an error correction model (ECM) that includes both the long run and short run dynamics. Given that the residual obtained from equation 2 is stationary at level, signifying a long run relationship, thus, Error Correction Mechanism is used to represent the long run (static) and short run (dynamic) relationships between MVA and its explanatory variables. Also, ECM is used to indicate the speed of adjustment from the short run equilibrium to the long run steady state.

Therefore, it is expected that the error correction term is specified as follows:

$$\Delta MVA_t = \alpha_0 + \alpha_1 \sum_{t=1}^{n} \Delta HCS_{t-1} + \alpha_2 \sum_{t=1}^{n} \Delta DI_{t-1} + \alpha_3 \sum_{t=1}^{n} \Delta \log RGDP_{t-1} + \alpha_4 \sum_{t=1}^{n} \Delta LS_{t-1}$$

$$+ \sum_{t=1}^{n} FDI_{t-1} + \delta ECM(-1) + \mu_t \ldots\ldots\ldots\ldots 3$$

Where μ_t is the error term, ECM(-1) is the error correction term and **δ** the long run speed of adjustment to equilibrium steady state. The short run impacts are captured through the individual coefficients of the differenced terms (α_i) while the coefficient of the ECM variable contains information about whether the past values of variables affect the current values. The size and statistical significance of the coefficient of the ECM measure the tendency of each variable to return to the equilibrium. If the coefficient is significant, it implies that past equilibrium errors play a role in determining the current outcomes.

ANALYSIS AND FINDINGS

We start the analysis by examining the unit root properties of the variables bearing in mind that the application of Johansen test of co-integration technique requires that all the variables should be integrated of the same order as shown in Table 1. Having adopted the ADF test of stationarity, table 1 reveals that all the variables: MVA, HCS, DI, RGDP, FDI and LS are stationary at first difference, that is, they are all integrated of order one I(1) hence, the application of Johansen co-integration approach to examine the long run relationship among the variables is now feasible. The results of the ADF test are given as follows (Table 1).

Table 1: Result of ADF of the Variables in the Model

VARIABLE (D=0)	CONDITION	VARIABLE (D=1)	*VALUE OF ADF TEST*	*P-VALUES*	CONDITION
MVA	Not stationary	D(MVA)	-5.054932*	0.0002	Stationary
LOG(HCS)	Not stationary	D(LOG(HCS))	-8.161513*	0.0000	Stationary
DI	Not stationary	D(DI)	-4.894917*	0.0002	Stationary
LOG(RGDP)	Not stationary	D(LOG(RGDP))	-6.917876*	0.0000	Stationary
FDI	Not stationary	D(FDI)	-9.502785*	0.0000	Stationary
LS	Not stationary	D(LS)	-13.85126*	0.0000	Stationary
RESIDUAL	Stationary		-4.222543*	0.0020	
Test Critical Values:	1% Level	-3.600987			
	5% Level	-2.935001			
	10% Level	-2.605836			

Note: D is the order of integration; * significant responses at 0.01 probability level

Estimation of FDI Impact on Manufacturing Firms Performance in Nigeria

An estimate of the performance of manufacturing firms in Nigerian was carried out with the use of OLS. The result as shown in table 2 reveals that most of the variables considered impact on the activities of the manufacturing firms in Nigeria except the real gross domestic product and Human Capital Skill. While the foreign direct investment and labour supply showed a negative

impact on manufacturing value added and are significant, domestic investment impacted on MVA positively and also significant during the period under review.

Table 2: Estimated Manufacturing Firms Performance in Nigerian

VARIABLES	COEFFICIENTS	STANDARD ERROR	T-STATISTICS	PROBABILITY
Human Capital Skill	6.59E+08	2.74E+10	0.024054	0.9809
Domestic Invest.	0.561854	0.022655	24.80061	0.0000
Real GDP	-4.64E+09	2.81E+10	-0.165335	0.8696
Labour Supply	-43770.41	12099.57	-3.617517	0.0009
Foreign Direct Invest.	-87.34454	23.50587	-3.715860	0.0007
Constant	1.73E+10	2.31E+10	0.749928	0.4582
R-squared	0.945412	Mean dependent var		1.30E+11
Adjusted R-squared	0.937831	S.D. dependent var		4.77E+11
S.E. of regression	1.19E+11	Akaike info criterion		53.97427
Sum squared resid	5.10E+23	Schwarz criterion		54.22251
Log likelihood	-1127.460	Hannan-Quinn criterion		54.06526
F-statistic	124.6980	Durbin-Waston stat		1.414336
Prob(F-statistic)	0.000000			

The above conform to economic apriori expectation theory. This means that a unit increases in domestic investment for example will increase MVA by about 56 percent. Moreover, FDI is an important factor in any economy particularly the manufacturing sector; hence its impact is disaggregated into positive and negative impacts. Experience and empirical research show that though FDI flows are very important to any economy, yet its effects should be guided against its unwanted negative adverse effects. To account for the negative impact, the researcher modeled FDI as a quadratic function to account for its turning point. The coefficient $\lambda = -87.34454$, therefore the turning point which is $(1-\lambda) = 88.34454$. This implies that a unit increase in FDI will reduce the MVA by about 87.34% but a positive impact will only be realized when FDI flows are increased to a reasonable point over time. Hence, insufficient FDI flows will negatively impact on the operation of the manufacturing firm by possibly making them to be over dependent on foreign firms for technology transfer, the importation of raw materials, the transfer of the required skill needed in terms of efficient human resource since the human capital is unable to impact on the activities of manufacturing firms in Nigeria.

The cointegration results are given in table 3 and 4. From these tables, we can see that the trace statistics and maximum eigenvalues are greater than the critical values at 5% significant level; but both statistics show we have three cointegrating vectors in the trace statistics as well as in the maximum eigenvalues. Hence we reject the null hypothesis that there

is no cointegrating relationship among these variables. In other words, there is unique long run equilibrium relationship among MVA, LOG(HCS), DI, LOG(RGDP), FDI and LS.

Table 3: Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.951374	231.0113	95.75366	0.0000
At most 1 *	0.754586	110.0672	69.81889	0.0000
At most 2 *	0.515338	53.87478	47.85613	0.0122
At most 3	0.307488	24.90264	29.79707	0.1650
At most 4	0.167874	10.20546	15.49471	0.2653
At most 5	0.068879	2.854620	3.841466	0.0911

Trace test indicates 3 cointegrating equations at the 0.05 level

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.951374	120.9441	40.07757	0.0000
At most 1 *	0.754586	56.19241	33.87687	0.0000
At most 2 *	0.515338	28.97215	27.58434	0.0330
At most 3	0.307488	14.69717	21.13162	0.3107
At most 4	0.167874	7.350845	14.26460	0.4485
At most 5	0.068879	2.854620	3.841466	0.0911

Max-eigenvalue test indicates 3 cointegrating eqn(s) at the 0.05 level

Table 4: Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None*	0.949385	119.3402	40.07757	0.0000
At Most 1*	0.733022	52.82361	33.87687	0.0001
At Most 2*	0.507603	28.33878	27.58434	0.0400
At Most 3	0.260127	12.05105	21.13162	0.5426
At Most 4	0.170685	7.486215	14.26460	0.4333
At Most 5	0.079163	3.298906	3.841466	0.0693

Max-eigenvalue test indicates 3 cointegrating equations at the 0.05 level

Moreover, since no research work is exhaustive on its own, the researchers of this work deemed it necessary to reveal other areas of further studies of this work. Since it is obvious that the activities of Manufacturing Firms are affected by the macroeconomic environment in which they operate and not only quantitative variables as used in this work affects its operation, it becomes necessary to incorporate this effect with the use of qualitative variable in any further research on this topic especially as it relates to Nigerian macroeconomic environment that has been negatively impacted upon by terrorism and insecurity as at the time of this work. Again, it becomes necessary to ascertain if there is bi-causality running between MVA and its explanatory variables especially FDI or a un-causality with the use of Granger causality test under a VAR model.

CONCLUSION AND RECOMMENDATIONS

Having obtained three cointegrating equations, we proceeded to run the VECM test in order to ascertain the general long run and short run effects of the variables under consideration on MVA as well as to check whether there is a causality running from HCS, DI, FDI, LS and real GDP to MVA.

The result shows that the coefficient of the error correction term is -14.21473 and at the same time, it is significant. Its negativity signifies that system corrects its previous years' errors at the speed of about 1421 percent annually; hence, the system is moving towards its long run equilibrium state and there is a long run causality running from the explanatory variables to the dependent variable. Also, the short-run causality was checked with the use of Wald-test coefficient diagnostics and the result was consistent with that of the long run. The Wald-test shows that only the three periods lags of Domestic Investment and Manufacturing Value added does jointly impact on the dependent variables in the short-run; hence there is a short-run causality running from manufacturing value added and domestic investment to MVA while there is no causality running from FDI, HCS and Real GDP to MVA in the short-run.

Given the outcome of the results, the researchers recommend that attracting Foreign Direct Investment should not be done in isolation if it must impact on the performance of manufacturing sector; therefore it becomes absolutely necessary to improve rapidly on domestic investment and human capital skill. Also since Foreign Direct Investment impacts on the activities of the manufacturing firms only in the long run, policies should be put in place for sustained FDI flows such as maintaining a stable Dollar/Naira exchange rate which will help to encourage the continuous inflows of FDI.

REFERENCES

Adejumo A. V., (2013): Foreign Direct Investments and Manufacturing Sector Performance in Nigeria. Australian Journal of Business and Management Research. Vol.3 No. 04 [39-56] | July-2013.

Adelegan, J.O. (2000): "Foreign direct Investment and economic growth in Nigeria: A seemingly unrelated model". African Review of Money, Finance and Banking, Supplementary issue of "Savings and Development" 2000. Milan. Pp. 5-25.

Akinlo E.A. (2004) " Foreign Direct Investment and Growth in Nigeria-An Empirical Investigation" *Journal of Policy Modelling vol 26 no 5, Amsterdam, Elsevier* pp 627-639*.

Akinlo, A.E. (2004): "Foreign Direct Investment and growth in Nigeria: An empirical investigation". *Journal of policy modelling,* 26,pp.627-39.

Ayanwale, A. B.(2007) "FDI and economic growth: Evidence from Nigeria". AERC Research paper 165. African Economic Reearch Consortium, Nairobi.

Ayanwale, A. B. and Bamire, A. S. (2001): "The influence of FDI on firm level productivity of Nigeria's agro/allied sector". Final report presented to the African Economic Research Consortium, Nairobi.

Balasubramanyam, V. N., Salisu, M. and Sapsford, D. (1996): "Foreign direct investment and growth in EP and IS countries", Economic Journal, vol. 106, pp.92-105.

Barro, R.J., 1998. Human capital and growth in cross-country regressions, manuscript, harvard university (http://hassler-j.Iies.Su.Se/conferences/ papers/barro.Pdf).

Barro, R.J. and J. Lee, 2000. International data on educational attainment: Updates and implications. Centre for International Development Working Paper 42.

Barro, R.J. and X. Sala-i-Martin, 1995. Economic growth. New York: McGraw-Hill: Advanced Series in Economics.

Blomstrom, M. and F. Sjoholm, 1999. Technological transfer and spillover: Does local participation with multinationals matter? European Economic Review, 43: 915- 923.

Blomström, M. and Kokko, A. (1997) "How foreign investment affects host countries", Policy Research Working Paper No. 1745, The World Bank.

Blomström, M., Lipsey, R. E. and Zejan, M. (1994) "What explains the growth of developing countries?", in Baumol, W. J., Nelson, R. R. and Wolff, E. N. (eds.): Convergence of productivity:

Borensztein, E., De Gregorio, J. and Lee, J. W. (1998) "How does foreign direct investment affect economic growth?", Journal of International Economics, vol. 45,pp. 115-135.

Central Bank of Nigeria (1997)."Globalization and National Economic Development." Central Bank Annual Report, December.

Central Bank of Nigeria (2003). "Annual Report & Statement of Accounts for the Year Ended 31st December".

Central Bank of Nigeria (2010). Statistical Bulletin

Chenery, H.B. and A. Stout, 1966. Foreign assistance and economic development. American Econ. Rev., 55: 679-733.

De Mello Jr, Reis Luiz (1997) "Foreign Direct Investment in developing countries and growth: a selective survey" in The Journal of Development Studies, Vol 34, no 1 Amsterdam, Elsevier pp 1-34.

Dunning, J. H. (1977) "Trade, location of economic activity and the MNE: A search for an eclectic approach", in Ohlin, B., Hesselborn, P. O. and Wijkman, P. J.(eds.) The international allocation of economic activity, Macmillan, London, pp. 395-431.

Dunning, J. H. (1979) "Explaining changing patterns of international production: In defense of the eclectic theory", Oxford Bulletin of Economics and Statistics, vol. 41, pp. 269-295.

Dunning, J. H. (1981) "Explaining the international direct investment position of countries: Towards a dynamic or developmental approach",Weltwirtschaftliches Archiv, vol. 122, pp. 667-677.

Dunning, J. H. (2000) "The eclectic paradigm as an envelope for economic and business theoriesof MNE activity", International Business Review, vol.9 pp. 163-190.

Dunning, J. H. and Narula, R. (1996) "The investment development path revisited: Some emerging issues", in Dunning, J. H. and Narula, R. (eds.) Foreign direct investment and governments: Catalysts for economic restructuring, Routledge, London, pp. 1-41.

Dunning, J. H. (1988). The Eclectic Paradigm of International Production - a Restatement and Some Possible Extensions. Journal of International Business Studies, 19(1): 1-31.

Fabayo, J. A. (2003). "Foreign Direct Investment and Manufacturing Industries in Nigeria: Performance, Prospects and Problems"

Grubert, H. and Mutti J. (1991) "Taxes, tariffs and transfer pricing in multinational corporate decision making", Review of Economics and Statistics, vol.

Herzer D., Klasen S. & Nowak-Lehmann D. (2006), "In Search of FDI-Led Growth in Developing Countries", Ibero-America Institute for Economic Research Discussion Papers, No. 150, Goettingen, Germany.

Jutta Gunther (2002) "The significance of FDI for innovation activities within domestic firms the case of Central east European economies, Discussion papers Nr,162, Halle Institute from Economic Research.

Mankiw, N., Gregory, R. David and N.W. David, 1992. A contribution to the empirics of economic growth. Quarterly Journal of Economics, 107: 408-437.

Mundell, R. A. (1957). "International trade and factor mobility". An American Economic Review, vol. 47, pp. 321-335.

Nnanna, O.J.,Englama, A. and Odoko, F.O. (2004) Financial Markets In Nigeria (eds.) Central Bank of Nigeria-Nigeria.

ODI (1997) Report: "Foreign Direct Investment Flows To Low-Income Countries": A Review of the Evidence.

Okodua, H (2009): "Foreign Direct Investment and Economic Growth: Co-Integration and Causality Analysis of Nigeria", The African Finance Journal, Vol. 11, Part 1.

Onyeagu A. N., and Okeiyika K. O.,(2013). "Investigating the interaction between foreign direct investment and human capital on growth: evidence from Nigeria." Asian Economic and Financial Review, 2013, 3(9):1134-1151

Oseghale, B.D. and E.E. Amonkhienan, (1987). "Foreign debt, oil export, direct foreign investment (1960-1984)". Nigerian J. Econ. Soc. Stud., 29(3): 359-380.

Otepola, A., 2002. FDI as a factor of economic growth in Nigeria. Dakar, Senegal: African Institute for Economic Development and Planning (IDEP), May. Available on line from idep@unidep.org.

Oyinlola, O., 1995. External capital and economic development in Nigeria (1970-1991). Nigerian J. Econ. Soc. Stud., 37(2-3): 205-222.

Smarzynska, B.K., 2003. Does Foreign Direct Investment Increase the Productivity of Domestic Firms? In search of Spillovers Through Backward Linkages. Policy Research Working Paper No. 29. The World Bank, Washington, D.C.

Thirlwall, A.P., and Bergevin, J. (1985). 'Trends, Cycles and Asymmetries in the Terms of Trade of Primary Commodities from Developed and Less Developed Countries', World Development, 13(7): 805-17.

UNCTAD, 1999. World investment report 1999. Geneva: UNCTAD.

UNCTAD., 2002. (united nation conference on trade and development). Investment Policy Review of Ghana. DOI http: //www.unctad.org.

Vernon, R. (1983). Organisational and Institutional Responses to International Risk. In Herring, R.J., editor, Managing International Risk. Cambridge: Cambridge University Press.

World Bank. (1996). World Debt Tables: Exterrnal Finance for Developing Countries. Vol. 1

World Bank Report (2007)No. 36483-NG: "Nigeria Competitiveness and Growth", Country Economic Memorandum (In Three Volumes) Volume I: Executive Summary, a Public Disclosure Authorize.