

## **The Impact of Capital Expenditure on Foreign Direct Investment in Nigeria**

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**Abstract:** The study exhaustively examines the impact of capital expenditure on foreign direct investment in Nigeria between 2000 and 2012. Capital expenditure directly or indirectly relates with foreign direct investment all over the world but the former tends to portend the efficacy of the latter. Realistically, the rate of economic growth of any country stimulated by foreign direct investment in fundamentally determined by such government capital expenditure. Therefore, it is in the light of this the researcher sources secondary data for the period under review (2000-2012) particularly Annual Time Services on government capital expenditure and foreign direct investment extracted from CBN statistical Bulletin published in 2012. Moreso, to be able to capture the impact of capital expenditure in foreign direct investment without iota of doubt. Ordinary least square (OLS) is adopted for the analysis. The result from OLS estimates will show how capital expenditure negatively determines FDI at 5% level of significance. Other pertinent information on how the two variables symbolistically relate and determine economic, growth are clearly explained in the course of this paper.

**Keywords used:** Capital expenditure, foreign direct investment, economic growth, ordinary least square, Central Bank of Nigeria.

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### **I. INTRODUCTION**

Foreign direct investment (FDI) has been a subject of interest for economists since the Post-Second World War period when European countries and Japan needed capital from the US to finance reconstruction following the damage caused by the war. FDI has grown continuously since then, and in the 1990s, it accounted for about a quarter of international capital outflows. (FDI) can have an impact on many aspects of a host country's economy such as output, the balance of payments, and market structure. However, it is believed that bridging the gap in technology between the foreign country and the host country is the main effect of FDI, which in turn improves the productivity and growth of the host country, (Moosa, 2002).

Foreign Direct Investment refers to the flow of capital from abroad for investment in another country. The ownership of such capital can either be an individual, a corporate body or a government. Basically, the denominator of FDI is that, a foreign firm or individual must control a certain amount of shares of such firm. However, FDI flow to a country depends largely on the presence in the country of a certain critical minimum requirements. Among the requirements is the presence of economic, political and social stability as well as rules regulating entry and operation of business. Other factors are the standard of treatment of foreign affiliates, business facilitation, investment incentives, market size, growth, structure and accessibility to raw materials, low cost but efficient labour force and physical infrastructure in the focus of roads, telecommunication, ports and power among many others. FDI has over the years proved to be a major stimulus of economic growth in developing countries through its contribution to transfer of technology, enhancement of balance of payments ability, employment generation and diversification of the industrial base of an economy among others. The emphasis on these resources for economic growth has made FDI the focus of policy-makers in many lowincome countries.

Carkovic and Levine (2002) noted 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 transfer and spillovers. Public expenditure on the other hand is an important instrument for a government to control the economy. While public spending can affect growth by providing the most necessary infrastructure, a pre-requisite for economic development, controversy exists on the positive role of FDI as well as public spending. Public expenditure may take the form of Capital expenditure or recurrent expenditure. Economists have been well aware of its two side effects in promoting economic growth. On the one hand, public investment in a factor contributing to capital accumulation. Public expenditures are also used to fill up the holes that are left

untouched in a market economy such as public utilities, health care, social security, etc. However, tax, which is a major financial source for public expenditure does directly reduce the benefits of taxpayers.

Gerald and Kathen (2005) defined government capital expenditure as payment by the Government for basic assets such as property, fixtures, or machinery, but not for day-to-day operations such as payroll, inventory, maintenance and advertisement. Government Capital expenditure supposedly increases the value of a Nation's assets, and is usually intended to improve productivity.

Government Capital expenditure in this context is the expenditure that creates an asset or that increases an existing assets remaining useful life. Findings might have confirmed that there is a positive relationship between FDI and Government Capital Expenditure in most studies, the degree of such impact depends on the absorptive capacity of the host country, which consists of the level of human capital, infrastructure, financial and institutional development, and trade policies (Makki and Somwaru, 2004).

It is important to note that previous studies have however found no consensus on the impact of public expenditures on Foreign Direct Investment (Gupta et al, 2002). The main purpose of this study is to contribute more empirical evidence which can be used as a reference for establishing a linkage between Government Capital Expenditure and the inflow of Foreign Direct Investment in Nigeria, as to the best of our knowledge, no time series study discusses the interrelationship among FDI and Capital expenditure. Further, this seems a timely analysis as developing countries are going through a new found enthusiasm for FDI.

### **An overview of Foreign Direct Investment in Nigeria**

Several governments in Africa Countries, Nigeria inclusive, have formulated various policies towards stimulating economic activities by attracting Foreign Direct Investment. In fact, one of the pillars on which the New Partnership for Africa's Development (NEPAD) was launched is to increase available capital through a combination of reforms, resource mobilization and a conducive environment for FDI among others (Funke and Nsouli, 2003). Unfortunately the efforts of most countries in Africa to attract FDI have been futile in spite of the perceived and obvious need for FDI on the continent. This developing is disturbing, sending very little hope of economic development and growth for these countries (Adams, 2008).

By and large, Nigeria has the potential to attract FDI but has not been successful in attracting it despite her efforts in liberalizing its FDI regime and intensifying its enabling environment through embarking on policies and structural reforms leading to increased openness, lowered barriers to trade, liberalizing its domestic financial markets and removing restrictions on capital movements. Even at this, the flow of foreign direct investment has not been felt by the aggregate sectors of the economy. Rather, it has been mostly skewed towards the oil sector of the economy where the country derives ninety per cent of her exports. The Nigerian government has been trying to provide an investment climate conducive for foreign investors, since the inflow of foreign investments into the country has not been encouraging. The need for Foreign Direct Investment in Nigeria is borne out of the underdeveloped state of the country's economy that essentially hinders the pace of her economic development.

On the other hand, Grier and Tulluck (1987) after carrying out their studies are however of the view that Growth in government share of GDP negatively affects growth of real GDP. In the same light, Davarajan et al (1996) after studying 43 Developing countries between the periods 1970-1990 concluded that Current Expenditure stimulates growth while government capital expenditure decreases growth. FDI has also been argued to act as a catalyst for inward investment by complementing local resources and providing a signal of confidence in investment opportunities (Agosin and Mayer, 2000). New projects may invite complementary local private investments that provide inputs to, or use outputs of the foreign firms. It is also likely that private investment increases by more than the FDI flows because foreign equity capital finances only part of the total investment project (Jansen, 1995).

As for the instruments, FDI capital comprises the capital provided (either directly or through other related enterprises) by a direct investor to a direct investment enterprises and the capital received by a direct investor from a direct investment enterprise. Firms pursuing international business opportunities analyse a number of factors regarding the FDI location decision (Porter, 2000). At the same time, countries compete to attract foreign firm's FDI inflows. In another work, Hsiao and Shen (2003) add that a high level of urbanization is also conducive to a positive impact of FDI on growth. Comparing evidence from developed and developing countries. Blonigen and Wang (2005) argue that mixing wealthy and poor countries is inappropriate in FDI studies. They note that the factors that affect FDI flows are different across the income groups. Interestingly, they find evidence of beneficial FDI only for developing countries and not for the developed ones, while they find the crowding-out effect of FDI on domestic investment to hold for the wealthy group of nations. Recently, Vu and Noy (2009) carried out a sectoral analysis of foreign direct investment and growth in developed countries. They focused on the sector specific impacts of FDI on growth. They found that FDI has positive and no statistically discernible effects on economic growth through its interaction with labour. Moreover, they found that the effects seem to be very different across counties and economic sectors.

In addition, Ruxanda and Muraru (2010) investigate the relationship between FDI and economic growth in the Romanian economy, using simultaneous equation models. They obtain evidence of the bidirectional causality between FDI and economic growth. In agreement with Muraru and Ruxanda is the work of Okon et al (2012) which investigates the relationship between foreign direct Investment and economic growth in Nigeria between 1970 and 2008.

The paper makes the proposition that there is endogeneity. i.e. bi-directional relationship between FDI and economic growth in Nigeria. The results for developing countries are not so clear, for instance while some findings give positive spillovers (Blostrom and Sjolholm, 1999; Kokko, 1994), others such as Aitken et al (1997) report limited evidence with no evidence of positive short-run spillover from foreign firms. Some of the reasons adduced for these mixed results are that the envisaged forward and backward linkages may not necessarily be there (Aitken et al, 1997) and that arguments of Multi-National Enterprises (MNEs) encouraging increased productivity due to competition may not be true in practice (Ayanwale, 2007). Other reasons include the fact that MNEs tend to locate in high productivity industries and, therefore, could force less productive firms to exit (Smarzynska, 2002). The consensus in the literature appears to be that FDI spillover depend on the host country's to absorb the foreign technology and the type of investment climate (Obwona, 2004). According to Ayanwale (2007), these works invariably assess the impacts of FDI inflows to the extractive industry on Nigeria's economic growth. Akinlo (2004) specifically control for the oil/non-oil FDI dichotomy in Nigeria. He investigates the impact of foreign direct investment (FDI) on economic growth in Nigeria, using an Error correction Model (ECM). He comes to the conclusion that both private capital and lagged foreign capital have small and not a statistically significant effect on economic growth. Furthermore, his results support the argument that extractive FDI might not be growth enhancing as much as manufacturing FDI. Oyinlola (1995) identifies the contributions of foreign capital to the prosperity or poverty of Less Developed Countries (LDCs) by conceptualizing foreign capital to include foreign loans, direct foreign investments and export earnings. Using Chenery and Stout's two-gap model (Chenery and Strout, 1966), he concludes that FDI has a negative effect on economic development in Nigeria. Also, 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.

Anyanwu (1998) places a particular emphasis on the determinants of FDI inflows into Nigeria. He identifies 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 inflows into Nigeria and thereby maintain that effort in this wise must be made to raise the nation's economic growth so as to be able to attract more FDI. Ayanwale (2007) investigates the empirical relationship between non-extractive FDI and economic growth in Nigeria and also examines the determinants of FDI inflows into the Nigerian economy. He adopts both singleequation and simultaneous equation models to examine the relationship. His results suggest that the determinants of FDI in Nigeria are market size, infrastructure development and stable macroeconomic policy. Openness to trade and human capital are not found to be FDI inducing. He also finds a positive link between FDI and growth in Nigeria.

## **II. LITERATURE REVIEW**

Foreign investment is direct if it entails investment in physical asset in the host country by the foreign investors. But where it entail the purchase of securities and the expenditure of income other intangible investment assets, it is classified as portfolio investments. Foreign Direct Investment according to Gillis in (1998) is investment made by nonresident typically but not always by multinational corporations in the enterprises located in the host countries. It implies full or partial control of the enterprises and physical presence by foreign firms or individuals, "although, foreign direct investment is sensitive to the real growth and lending rates, the inflationary rate and the level of public investments".

Investment is a capital involving the acquisition or creation of resources to be used in production; also it must present additions to the stock of the durable capital goods such as increase in production possibility in the futures. It is along this conception that investment is believed to involve the sacrifice of current consumption to increase future once investments can be bifurcated into part: Replacement investment and net investments. Maintaining the current level of output requires that an economy is able to keep up the existing capital stock into course production process. The Variant of investment is called capital consumption allowances or simply called depreciation. Thus gross investment minus replacement investment is called new investment and positive net investment increase the economy's total stock of capital However, in capitalist economy where attention is focused on business investment in physical capital notably: building equipment and industries, this focus suggests why most theories of investment behaviour refer to the business. Investment is also undertaken by government non-profit organization and Household, whose conception of involvement that goes beyond physical to include the acquisition of human and tangible capital as well.

In principle, it is suggested that investment should also include improvement of land or the development of natural resources and the relevant measures of production should include non-market output as well as goods and services produced for sales. Therefore, theoretical argument bound on the place of foreign direct investment in the economy. Firstly consistent and manage inflow of foreign investment provides an important source of foreign exchange earnings needs to supplement domestic savings and investment level. Secondly, import bills and conserved foreign exchange while investment in export industries will directly increase the country foreign exchange earnings. Therefore, understanding the relevant concepts of investment and its relationship to the economic good will enable us to know why financial crises affect the level of investment in Nigeria.

### **Theoretical Framework**

There are several theories on foreign direct investment; some are traditional school of thought, namely: the dependency, modernization and integrative schools and many other theories in FDI. Generally, the theories argued that, the flow of FDI requires policies that ensure general macroeconomic stability, integrate markets and open sectors to private enterprise that can help to expand the range of profitable investment.

The dependency school comprise dependencia (noomarxist) and structural theories which flourished between the 1960s and 1980s seeks to achieve more equal wealth, income and power distributions through selfreliant and collective action of developing nations. The dependency theorist sees the cause of under development primarily in exploitation by the industrialized nations. The school's major contribution to the FDI studies is focused on the consequences of FDI in developing countries and its critical analysis of western development paradigms that regards FDI as explicitly positive. The dependencia or non-marxist sub school states that developing countries are exploited either through multinational corporations transferring profit out of developing economics. The sub-school posits that industrialized countries extract resources from the peripheries namely the poor countries Cardeso, et al (1999). The school does not criticize capitalism. Outright but rather points out that the peripheries do not gain from capitalism as much as the centre does. According to this view, modernization, capitalization and industrialization are limited to the export driven economy and other sectors of the economy would deliver according to the export needs of the centre Pankenham (1992). However, it is widely accepted that FDI is indispensable for economic growth and development. Dependency theories have kept their appeal in developing world because compared with modernization school; they strive for more radical change in the global economy. According to Paul Salem (1993), it may be hypothesized that more radical theories tend to be adopted by the underdeveloped, who have higher incentives for changing the status quo, but less to loose in terms of capital and other international resources that industrialized economics.

The modernization school is reflected in the perfect market approach as represented by the neoclassical theories which remain widely influential to the present day. They proclaim that there is a natural order through which countries ascend to what is seen as higher development stages. The theories recommend barrier to exogenously motivated development through industrialization, liberalization and opening up of their economy. The country is with production factor such as labour, capital, and natural resources. The modernization school views FDI as a prerequisite and catalyst for sustainable growth and development. For FDI to fulfill its crucial role, economies have to be free from distorting state interventions and opened to foreign investment and trade.

The integrative school is represented by the diverse FDI and negotiation paradigm and it attempts to transform the thinking on FDI by analyzing it from the perspectives of host countries as well as investors. It integrates those dependency and modernization concepts that are applicable to current FDI analysis. Accordingly, integrative theories account for the multiplicity of heterogeneous variable involved in the FDI process. An integrative FDI theory considers micro and macro-economic variables that determine FDI. The macro level envelops the entire economy, while the micro level denotes firms and institutions that link the two. However, what distinguishes integrative FDI theory from its predecessors is that it accords more importance in the micro level, the sphere where macro and micro variables meet, and public policies are established and implemented. Thus, the micro level is pivoted to the successful implementation of public policies. It is important to more that, the Dependencia theory addresses FDI determinants from the view point of the firm. The theory examines FDI from the perspective of free trade. The integrative school sheds more light on the perspectives of the institutional arrangement in the host nation and views FDI at the micro level, and that is where the day to day challenges in FDI policy implementation occurs and structural rigidities are revealed.

The flexible acceleration theory is of the view that the major weakness of the simple acceleration principle is that the capital stock is optimally adjusted without any time lag. In flexible accelerator, there are lags in the adjustment process between the levels of output and the level of capital stock. This theory is also known as the capital stock adjustment model. The theory of flexible accelerator has been developed in various forms by Chenery, Godwin and Koyck of which the most accepted approach is by Koyck.

However, Jumorkor has discussed the lags in adjustment between output and capital stock. He examines that at the firm level and extends them to the aggregate level. Suppose there is an increase in demand

for output. To meet it, first the firm will use its inventories and then utilize its capital stock more intensively. Increase in the demand for output from capital stock, which is the decision making lag. There may be the administrative lag of ordering the capital as capital is not easily available and in abundance in the financial capital market. There is the delivery lag between the ordering of capital and its delivery. The research is based on the integrative school theory because its assumptions are more realistic and applicable to the Nigerian context.

### III. MODEL AND VARIABLES

The theoretical model that is used to investigate the interaction of FDI and capital expenditure is based on the following conventional classical linear regression function.

$$Y_1 = \beta_0 + \beta_1 x_1$$

Where Y represents Foreign Direct Investment,  $\beta_0$  is the intercept representing the level of FDI at zero level of capital,  $\beta_1$  is the slope representing the rate at which FDI changes with respect to change in capital and x is Capital Expenditure.

The measurement of capital stock (x) is a highly controversial issue especially in developing countries. Different proxies have been used to measure capital stock. However, we use public spending as a proxy for domestic capital stock. Data is considered on annual basis. Ordinary Least Square (OLS) method is used to estimate the regression coefficients. However, the sign of public spending coefficient is undetermined depending upon the crowding in or crowding out effect. The sign of capital coefficient cannot be determined either a priori. If the role of FDI is complementary to the domestic capital formation its sign is positive, otherwise negative. Hence we expect the sign of capital expenditure coefficient to be positive because the availability of capital in the country will stimulate foreign direct investors to invest in that country.

#### Estimation

The following table shows the result of the regression analysis with data of 2001 to 2012. As mentioned earlier, it is also one of the objectives of the study to find the FDI effect becomes at which the level of capital is positive.

$$Y_1 = \beta_0 + \beta_1 x_1$$

The estimation output of equation is presented in the table

Dependent variable: FDI

Method: Least Squares

Date: 01/16/14 Time: 02:36

Sample: 2001 2012

Included observation: 12

FDI = C (1) C(2) \*CAPITAL

	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	-63251.81	162799.5	-0.388526	0.7058
C(2)	-21.08860	8.027269	-2.444406	0.0346

R-squared	0.374027	Mean dependent var	355970.0
Adjusted R-Squared	0.311429	S.D Dependent var	460967.6
S. E. of regression	382511.7	Akaika info criterion	28.63792
Sum squared resid	1.46E+12	Schwarz criterion	28.77874
Log likelihood	-170.1875	Hannan-Quinn Orter	28.66800
F-statistic	5.975122	Durbin-Watson stat	0.585768
Prob(F-statistic)	0.034587		

Estimation Output (threshold Regression)

### IV. RESULTS AND DISCUSSION

The discussion starts with the result for intercept parameter. This value of the parameter remains insignificant with a negative sign.

The value of the second parameter indicates that capital is negatively associated with FDI and is highly significant with probability of (0.0346). This is against our a priori expectation. However, these are so many reasons which might explain this paradox as follows.

- a. Insecurity: the nature of insecurity in the country especially at the present moment might be responsible for militating against the inflow of FDI. This is evident in the fact that the security crisis faced by Nigeria over the years like the Militancy in the Niger-Delta, kidnapping and Boko Haram insurgency in the Northern region has played a significantly negative role in attracting FDI.
  - b. Political and Social instability: another possible explanation for the inability of increased government expenditure to attract FDI may be as a result of political instability. The nature of the political and social environment in the country plays a vital role in determining the flow of FDI. If the polity is stable and conducive enough, foreign direct investment flow will also be positive and vice versa.
- Other factors that may affect the flow of FDI to Nigeria include inefficient rule regulating entry and operations of business, low standard of treatment of foreign affiliates, Low business facilitation, low investment incentives, inefficient labour force and the presence of physical infrastructure in the form of roads, telecommunications, ports and power among many others.

The R-Squared (0.374027) indicates that 37.4% of the changes in FDI in Nigeria is influenced by changes in Capital Stock, while the remaining 62.6% is influenced by other factors not captured in the model. The F-statistic probability (0.34587) indicates that the model is highly significant

## V. CONCLUSION AND RECOMMENDATIONS

Contrary to previous empirical literature, we conducted a time series study in the case of Nigeria to analyze the interrelationship among FDI and capital Stock. It recorded that Capital Stock in Nigeria stimulates FDI like other developing countries of the world. The relationship between Capital Stock and FDI in Nigeria is Negative which is against the priori expectation, but it is not surprising due to the political, social as well as security challenges in the country. We also find that 37.4% of the changes in FDI in Nigeria are influenced by changes in Capital Stock, while the remaining 62.6% is influenced by other factors not captured in the model. The T and P-statistic probability indicates that the parameters and the model are highly significant. In order to enhance FDI in Nigeria the requirements are the presence of economics, political and social stability as well as rule regulating entry and operation of business, the standard of treatment of foreign affiliates, business facilitation, investment incentives, market size, growth, structure and accessibility to raw materials, low cost but efficient labour force and physical infrastructure in the forms of roads, telecommunications, ports and power among many others.

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