

The Nexus between Security Expenditure and Foreign Direct Investment in Nigeria

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Abstract: *This study investigates the relationship between expenditure on security and foreign direct investment (FDI) in Nigeria using secondary data spanning through 1985 to 2015. Preliminary unit root tests were conducted using the Philip-Perron approach. Co-integration and Error Correction Mechanism (ECM) were employed to examine the nexus between expenditure on security and FDI. The study found that internal security expenditure and inflation maintained negative long-run relationship with index of FDI while defence expenditure exhibited long-run positive relationship with the dependent variable. Consequently, it is recommended that an investment friendly environment capable of attracting FDI should be of priority to the federal government. Likewise, serious and tight border strategic management is direly needed now as Nigerian borders have been porous and weak to the extent that ammunitions and other weapons freely fly across our borders unchecked. If these are allowed, a higher inflow of direct investment into Nigeria is imminent.*

Keywords: *defence, internal security, insurgency, foreign direct investment*

I. Introduction

Kidnappings, wanton killings and corruption seem to be the attendant hydra-headed trouble affecting Nigeria today. The current state of insecurity and bombing especially in the Northern part of Nigeria has posed serious challenge and threat to the peace and stability of Nigerian macroeconomic environment. The nation has not only suffered colossal loss in terms of infrastructure, properties, and human lives, but also, economic disruption leading to crowding out effect on foreign investment. In other to ameliorate the incidence of crime, the Federal government has embarked on criminalization of terrorism by passing the Anti-Terrorism Act in 2011, installation of computer-basis closed circuit television cameras (CCTV) in some parts of the country aimed at deterring attacks, strengthening of security agencies through provision of security facilities and employment of mass media to create awareness and broadcast security tips the masses (Azazi, 2010). Despite these efforts, the level of insurgency in the country is still high; in addition, Nigeria has consistently ranked low in the Global Peace Index (GPI, 2012), signifying a worsening state of insecurity in the country.

Okpaga, Chijioke & Eme (2012), as well as Alfaro et al. (2011), are of the view that the efforts of government so far have not yielded enough positive result with the lingering insurgency, challenges and the inability of the security apparatus of the government to guarantee the socio-economic well-being and attract sufficient foreign direct investment (FDI) into the country.

The role of FDI as an engine of economic growth and development in emerging economies like Nigeria cannot be overemphasized. Generally, no business can thrive in tensed and unsecured environment; this has serious implication on FDI and economic growth. Socio-unrest and domestic terrorism do not only breed uncertainty in the investment and financial climate but also increase security cost, reduction in output and productive capacity as well as collateral damage to infrastructure.

Therefore, the objective of this study is to investigate the impact of security expenditure on foreign direct investment in Nigeria. Economic growth, expenditure on security and insecurity would be examined to determine their effects on FDI.

II. Literature Review

Economic growth is defined as a gradual and steady change in gross domestic product (GDP) in the long-run which is actualized by a general increase in the rate of savings and population. It is also viewed as the raising of income level in the countries because economic development is no longer the objective of such country but those issues relating to the post-developmental growth in that economy. This may be far from the truth within the context of a developing nation like Nigeria where economic growth also takes place. Economic growth is notable increase overtime in a country's real production of goods and services. Generally, an economic growth experienced over a period of time, say a year or two, does not necessarily mean a major breakthrough for such country unless such growth is sustained over a reasonable period of time.

The concept of insecurity would be best understood by first presenting the concept of security. According to Akin (2008), security refers to “the situation that exists as a result of the establishment of measures for the protection of persons, information and property against hostile persons, influences and actions”. It is the existence of conditions within which people in a society can go about their normal daily activities without any threats to their lives or properties. It embraces all measures designed to protect and safe guard the citizenry and the resources of individuals, groups investments and the nation against sabotage or violent occurrence (Ogunleye 2011). According to Igbuzor, 2011, it demands safety from chronic threats and protection from harmful disruption.

Insecurity, on the other hand, is the antithesis of security because of the very many ways in which insecurity affects human life and existence. The concept of insecurity is usually described differently, these include: want of safety, danger, hazard, terrorism, bombing, killing, kidnapping, uncertainty. All of these have been used by different people to describe insecurity. For instance, Beland (2005) defined insecurity as the state of fear or anxiety stemming from a concrete or alleged lack of protection. Insecurity takes may be visible, economic and social in nature.

Foreign Direct Investment (FDI) means the direct investment of a foreign company or country on the productive asset of the domestic economy. According to Graham and Spaulding (1995), FDI in its asset classic definition is defined as a company from one country making physical investment (FDI) into building a factory in another country. Odozi (1995) reported that foreign direct investment is a form of lending or finance in the area of equity participation. It generally involves the transfer of resources, including capital, technology and management and marketing expertise. Such resources do extend the production capabilities of the recipient country.

In the literature, many factors have been identified to determine the flow of FDI in the host country, Chakrcubati (2001) and Tarzi (2005) identify market size, trade-openness and infrastructure etc. as critical determinants of FDI.

III. Theoretical Framework

Lipsey and Chrystal (2003) observed that FDI is often undertaken by domestic firms which have accumulated some advantages in the local market, such advantages include patents and know-how that bestow on them advantages when they enter into foreign markets. They opined that FDI often generate some higher paying job, which might otherwise be available to local citizens. Secondly, it generates investment that may not be possible with local resources only. Thirdly, it links the recipient economy into the world economy in manners that would be low to achieve by new firms of a purely local origin.

Dunning (1977), in his *eclectic theory*, proposes that firms must possess some ownership advantages over other firms in the area of the firm’s specific intangible assets like technology and trademarks. These intangible assets are optimized only if they are used by the firm rather than selling or leasing them. The *politico-economic theory* of FDI concentrates on political risk. Political instability in the host countries leads to foreign investment therein (Fatehi-Sedah and Safezedah, 1989). Similarly, political instability in the home country encourages investment in foreign countries (Tallman, 1988). However, Schneider and Frey (1985) believe that the theory underlying the political determinants of FDI is less well-developed than those involving economic determinants. The political factors are only additive ones influencing foreign investment.

IV. FDI and National Security

Insecurity and terrorism are two inseparable phenomena. Domestic terror and other social vices are perpetrated in the absence of strong security structure. Thus these two terms can be used inter-changeably although they differ in terms of analytical approach. The literature on the relationship between FDI and security are very scanty. Every year developing countries spend large portion of their budget on defence and security. For instance, in 2010, over ₦448 billion was voted for security spending in Nigeria. In that same year, the Nigeria Economic Fact sheet (2011), reported that U.S which is the largest contributors of FDI in Nigeria dropped by 29% from \$8.65 billion to \$6.1 billion in 2010. The decline in U.S FDI in 2010 was due to on-going uncertainty largely related to the proposed Petroleum Industry Bill (PIB) as well as political unrest in the Niger Delta region.

The important question is, “does the huge fund allocated to defence and security sector actually reflect the social well-being of the nation? Report reveals that security vote received over ₦900 billion Naira, the highest ever since independence in 1960. The proponents of the budget may attribute this to the insurgence of the Islamic fundamentalist group otherwise known as *book haram* and the inability of the security agents to keep pace with the recent trend of events. McKenna (2005) argues that the increase in government expenditure due to the high level of insurgence especially in less developed counties may likely result in the sales of foreign reserve and seignorage. As a consequence, inflation in those countries will rise.

Along this line, Sandler & Enders (2008) argued that developing countries are particularly prone to the economic ramifications of terrorism. This will not only lead to loss in GDP but also significant losses in FDI and GDP growth (Abadie and Gardeazabal, 2003). Through disruptions, damage and insecurity, terrorism is anticipated to reduce FDI (Sandler & Enders, 2008).

V. Methodology

The study aims at providing empirical evidence on the effect of capital market reforms on the economic growth of Nigeria. The data were sourced from the Central Bank of Nigeria statistical bulletin. The study hypothesized that capital market reforms does not have a significant effect on the economic growth of Nigeria. The study employed annual time-series data from 1985 to 2012. The study employed Philip-Perron unit root test, Johansen Co-integration test, and Error Correction Mechanism (ECM).

Specification of the Empirical Model

The model used in this study is based on the modifications of the works of Ekeocha (2008) and Dickson (2012). They investigated the linkage between Security Expenditure and Foreign Direct Investment. Their model specified that Security Expenditure (proxied by Expenditure on Internal Security and Expenditure on Defence) is significantly influenced by Foreign Direct Investment.

But in this study, the model is given by the following general specification:

$$FDI = f(EINS, EDEF, INFR) \dots(1)$$

Specifically, equation (1) becomes

$$FDI = \lambda_0 + \lambda_1 EINS + \lambda_2 EDEF + \lambda_3 INFR + \mu \dots(2)$$

By log-linearization of the equation becomes:

$$\log FDI = \lambda_0 + \lambda_1 \log EINS + \lambda_2 \log EDEF + \lambda_3 INFR \dots(3)$$

where:

- FDI = Foreign Direct Investment
- EINS = Expenditure on Internal Security
- EDEF = Expenditure on Defence
- INFR = Inflation Rate

A Priori Expectation

As earlier stated, the variables include Foreign Direct Investment (FDI), which is taken as the dependent variable while EINS, EDEF, and INFR which are the independent variables. It is expected that all explanatory variables will have a direct relationship with the dependent variable. That is, a unit increase in any of these variables will lead to an increase in the dependable variable. This can be expressed mathematical as:

$$\lambda_1, \lambda_2 \text{ and } \lambda_3 > 0$$

Data Analysis and Interpretation of Results

This section provides in detail the analysis of data used in the study and interpretation of the empirical results. The unit root test was performed to confirm the stationarity of data; the co-integration test was used to establish the existence of a long-run equilibrium relationship among the variables while the error correction mechanism shows the speed of adjustment of the dependent variable to changes in the independent variables.

Unit Root Test

Non-stationary data produces spurious regression; hence the result may be misleading. Therefore, it is cognizant to establish the stationarity of the data. This is carried out using the Philip-Perron (PP) unit root test. The decision rule is that the PP test statistic value must be greater than the Mackinnon critical value at 5% and at absolute value.

The table below shows the summary of unit root test conducted on the parameter at level.

Table 4.1: Unit Root Test at Level

Variables	PP Test Statistic Value	Mackinnon critical Value at 5%	Prob.	Remark
FDI	0.39132	-2.97626	0.9788	Non-stationary
EINS	17.17079	-2.97626	1.0000	Non-stationary
EDEF	3.12136	-2.97626	1.0000	Non-stationary
INFR	-2.50123	-2.97626	0.1263	Non-stationary

From the table above, it can be deduced that all the variables are non-stationary because they have their Philip-Perron (PP) statistics less than Mackinnon critical value at 5%. This led to the testing for stationarity at first difference and second difference for EDEF only.

Table 4.2: Unit Root Test at First/Second Difference

Variables	PP Test Statistic Value	Mackinnon critical Value at 5%	Prob.	Remark
FDI	-8.55054	-2.98104	0.0000	I(1)
EINS	-9.69916	-2.98104	0.0000	I(2)
EDEF	-4.43727	-2.98104	0.0018	I(1)
INFR	-5.18805	-2.98104	0.0003	I(1)

All the variables are stationary at first difference except EDEF because they have their respective PP statistics greater than Mackinnon critical value at 5%. The fact that one is stationary at second difference shows that the variables are not co-integrated in the same order.

Co-Integration Test

The essence of co-integration test is to ascertain if a long-run equilibrium relationship exists among variables of the model.

Decision rule

The trace statistics (likelihood ratio) must be greater than 5% critical ratio at None Hypothesized (None**). The table below shows the summary of result from analysis conducted on the specified model.

Table 4.3: Johansen Co-integration Result
Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.646839	59.21072	47.85613	0.0030
At most 1 *	0.453783	32.14912	29.79707	0.0263
At most 2 *	0.351838	16.42592	15.49471	0.0361
At most 3 *	0.179754	5.151932	3.841466	0.0232

Trace test indicates 4 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

From the table above, it could be deduced that the log likelihood ratio of 59.21 is greater than 5% critical value of 47.86. This shows the existence of a long-run equilibrium relationship among the variables. Also, in the result of the Johansen co-integration test, the lowest log likelihood ratio is -116.44 and its respective cointegration equation is specified below:

$$FPI = -1.388977EINS + 0.527879EDEF - 0.012089INFR$$

(0.19933) (0.23555) (0.00414)

Note: The standard error statistics attached to each variable are in parenthesis.

It can be deduced from the result that FDI has decreased overtime by 1.389 units due to poor expenditure on Internal Security in Nigeria. However, the result indicates that coefficient of EDEF is positive (0.528). This implies that there exists a positive relationship between FDI and EDEF in the Long-run. A unit increase in EDEF leads to an increase in FDI by 0.528 unit. The coefficient of INFR is -0.012. This implies that this variable share a negative relationship with FDI in the long-run. Any attempt to increase this variable in the long-run will enhance a decrease in FDI.

Error Correction Mechanism

The error correction mechanism involves developing two models; the over-parameterized model (ECM1) and the parsimonious model (ECM2). ECM1 involves leading and lagging of the variables while ECM2 introduces short-run dynamism into the long-run equilibrium.

Table 4.4: Result of Over-parametarised ECM

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.037938	0.288451	-0.131524	0.8975
DLOG(EINS)	0.221069	0.399138	0.553867	0.5898
DLOG(EINS(-1))	0.129534	0.413750	0.313072	0.7596
DLOG(EINS(-2))	0.314743	0.347764	0.905046	0.3833
DLOG(EDEF)	0.118698	0.275991	0.430081	0.6748
DLOG(EDEF(-1))	0.175250	0.268665	0.652300	0.5265
DLOG(EDEF(-2))	-0.065131	0.253330	-0.257098	0.8015
D(INFR)	-0.000878	0.005250	-0.167247	0.8700
D(INFR(-1))	0.010006	0.008588	1.165056	0.2666
D(INFR(-2))	-0.012653	0.008222	-1.539044	0.1497
DLOG(FDI(-1))	0.061122	0.352754	0.173270	0.8653
DLOG(FDI(-2))	0.352209	0.216870	1.624056	0.1303
ECM(-1)	-0.877233	0.423973	-2.069077	0.0608
R-squared	0.797651	Mean dependent var		0.244722
Adjusted R-squared	0.595302	S.D. dependent var		0.613898
S.E. of regression	0.390537	Akaike info criterion		1.263440
Sum squared resid	1.830225	Schwarz criterion		1.897256
Log likelihood	-2.793003	Hannan-Quinn criter.		1.439234
F-statistic	3.941951	Durbin-Watson stat		2.309914
Prob(F-statistic)	0.012352			

Table 4.5: Result of Parsimonious ECM

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.225556	0.077549	2.908543	0.0087
D(INFR(-1))	0.009543	0.004485	2.127883	0.0460
D(INFR(-2))	-0.010830	0.003776	-2.867837	0.0095
DLOG(FDI(-2))	0.280872	0.117883	2.382634	0.0272
ECM(-1)	-0.806421	0.161720	-4.986516	0.0001
R-squared	0.765906	Mean dependent var		0.244722
Adjusted R-squared	0.719087	S.D. dependent var		0.613898
S.E. of regression	0.325373	Akaike info criterion		0.769168
Sum squared resid	2.117352	Schwarz criterion		1.012943
Log likelihood	-4.614595	Hannan-Quinn criter.		0.836780
F-statistic	16.35895	Durbin-Watson stat		2.057207
Prob(F-statistic)	0.000004			

Interpretation of the ECM

The ECM, otherwise known as speed of adjustment, is significant with the appropriate sign i.e. negative sign. This can be seen on the over-parameterized ECM that shows ECM value of -0.8772. This implies that the present value of FDI adjust rapidly to changes in EINS, EDEF and INFR. The lagged value of ECM given as 87.72% indicates a feedback of or an adjustment of 87.72% from the previous period disequilibrium of the present level of FDI in the determination of causality between the past level of FDI and the present and past level of the explanatory variables.

Implication of Findings

The implication of some of the explanatory variables is to tell their real effect on inflow of Foreign Direct Investments in Nigeria. For instance, EINS bears the highest negative influence on FDI inflow implying

that the current level of insurgency emanating from the sect known as 'Boko Haram' is basically an impediment to the inflow of FDI within the timeframe examined. On the other hand, only increase in expenditure on defence aids Foreign Direct Investment. A unit increase in EDEF enhanced 0.53 unit increase in FDI. The explanation for this is that external aggression is not the issue in Nigeria that currently scares off foreign investors, thus the fund allocated for defence is commensurate to the peace enjoyed relative to external invasion. This result is line with the view of Levine and Zervos (1996) about long-run implication of National security on Foreign Direct Investment.

Lastly, inflation is negatively related to FDI. A unit increase in INFR enhanced 0.004 unit decrease in FDI. The implication of this is that the decreasing rate of inflation does not theoretically support investment. For instance, between 2008 and 2012, a consistent decrease in inflation was witnessed. Investors are generally motivated by consistent rise in price but then INFR bore the weakest effect on the dependent variable

VI. Summary, Conclusion and Recommendations

This study reveals that there is a linkage between Foreign Direct Investment and Government Expenditure on security vis-à-vis Expenditure on Internal security, Expenditure on defence and inflation. As it can be observed that two of these variables EINS and INFR are inimical to the inflow of Foreign Direct Investment in Nigeria. For Nigeria to substantially attract foreign investments with a pivotal force towards a better socio-economic growth and development, the following suggestions are put forward.

First, improvement in government's allocation towards internal security should be an earnest priority of the Federal Government. This will help to curb the rising trend of socio-economic insurgency in the economy and a consequential increase in the inflow of Foreign Direct Investment will be imminent.

It is also recommended that an investment friendly environment capable of attracting Foreign Direct Investment should be of priority to the federal government. Likewise, serious and tight border strategic management is direly needed now, as Nigeria borders have been porous and weak to the extent that ammunitions and other weapons freely fly across our borders unchecked. If these are allowed, a higher inflow of direct investment into Nigeria is obvious.

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