Determinants of Foreign Direct Investment in Nigeria: Political Factor Effects Revisited

ibrahim, waheed and Omoniyi, Benjamin

University of Ilorin, University of Ilorin

2011

DETERMINANTS OF FOREIGN DIRECT INVESTMENT IN NIGERIA: POLITICAL FACTOR EFFECT REVISITED.

BY

IBRAHIM W*

DEPARTMENT OF ECONOMICS,
AL-HIKMAH UNIVERSITY, ILORIN.

E-mail:- olafuhad@yahoo.com

MOBILE: 08035146330/08074885981

And

OMONIYI B.**
DEPARTMENT OF ECONOMICS
AYO BABALOLA UNIVERSTY,AKUNGBA
MOBILE: 08067089798

* Ibrahim W. is a doctoral student at the Department of Economics University of Ilorin and a Lecturer at Department of Economic, Al-Hikmah University, Ilorin.

** Omoniyi B is a Lecturer at the department of Economics Bishop Ayo Babalola university,Akungba.

ABSTRACT

The paper examines the determinants of Foreign Direct Investment (FDI) in Nigeria during 1970 – 2006. cointegration techniques reveal that the major determinants of FDI are market size, real exchange rate and political factor thereby validating theoretical expectations. Furthermore, simulations using impulse response and variance decomposition analysis suggest that uncontrolled trade liberalization must be avoided.

Keywords: FDI, Cointegration, Impulse response, variance decomposition

INTRODUCTION

One striking feature of the world economy in recent decades has been the growth of Foreign Direct Investment (FDI) and the market for it has become more competitive. Developing countries are becoming increasingly attractive as investment destinations, in part because they can offer investors a range of 'created' assets (World Bank, 2003).

Given the potential role that FDI can play in accelerating growth and economic transformation, developing countries are strongly interested in attracting it. They are taking steps to improve their scores on the principal factors influencing the location choices of direct investors. Following World Bank report (2003), many researchers related FDI to domestic demand through what has been called "the size of market hypothesis. The argument is that FDI will take place as soon as the market is large enough to permit the capturing of economics of scale. To some, a country's openness, particularly the rules concerning the repatriation of capital and incomes, play important roles in the determination of FDI (See for instance, Lim, 2001 and Digiovanni, 2005). There are a number of works that are explicitly devoted to the analysis of FDI in Nigeria such studies include; Edozien, 1968; Langley, 1968; Oladipo 1987; Louis, 1998, and Anyawu, 1998 among others. Edozien (1968) work was preoccupied with the linkage generated by foreign investment and their impacts on Nigeria's

economic development. Specifically he contends that foreign investment in duce the inflow of capital technical know –how and managerial capacity. In has own spay, Langley (1968) contends that FDI has both benefits and cost repercussion in the content of Nigeria's economic development. While EDI could accelerate Gross Domestic Product (GDP) growth via the infusion of the modern techniques and enhancement of managerial efficiency, he warns that it could also balance of payments position (see also, Olakamiko, 1962; Olopoenia, 1983; Osaghaw and Ameichieman, 1987, for similar views on the impact of FDI on Nigeria's economy).

Investigating the determinants of FDI in Nigeria, Louis (1998) using error correction specification, opined that both political and economic factors constitute the major determinants of FDI in Nigeria. In a contrary opinion, Anyawu (1998) using cointegration technique, found political factors to be insignificant in the determination of FDI in Nigeria and that economic factors are the key determinants.

Anyawu's (1998) findings that political factor is not a significant determinant of FDI is weighty and needs a confirmation. This is what this study is set out to do. The strategies relevance and role of FDI in augmenting domestic investment reinforce the pertinence of our effort, especially in view of the intense efforts of the new democratic government in Nigeria since 1999 to attract Foreign Direct Investments. Our current

effort may resolve existing controversy on the role of political factors. Furthermore, the current effort is justified in view of the enlarged data size that is now available than those used by earlier authors. In other words, the objective of this study is to identify the determinants of FDI in Nigeria between 1970 and 2006 to determine whether the results from existing studies remain valid. To realize the objectives of the study, the rest of this paper is organized as follows; section 2 gives a brief theoretical foundations; section 3 outlines the research methodology, section 4 presents the results and analysis while section 5 concludes.

2. THEORETICAL FRAMEWORK

A review of the literature on the desirability or otherwise of FDI reveals that there are a number of contesting schools which can be classified into two major schools of thought namely, P foreign investment and anti-foreign investment schools (see the table below).

Table 2:1: Approaches to Foreign Direct Investment

	Pro-Foreign Investment		Anti-Foreign Investment
1.	Business school approach	1	The Nationalist approach
2	The traditional economic approach	2	The dependence approach
3	The Neo-traditional approach	3	The maxist approach

Source: Adapted from Anyawu, 1998:224

The pro-foreign investment school consists of the business school, the traditional economic approach and the neo-traditional approach. The business school believes in the moral and practical virtues of the free enterprises system. The traditional economic approach, on the other hand, argues that FDI is a net addition to investible resources in host countries and as such, raises their rate of growth, this approach ahs advocates in Kindlerberger (1969) and Venon (1971). The neo-traditional approach believes in the good, old fashioned virtues of early capitalism but is worried by the power of the present multinational enterprises (MNE's) it has advocate in Behrman (1970) and Bannock (1971).

However, the anti-foreign investment school consists of the nationalist approach who argues that FDI damages host countries (economies) through the suppression of domestic entrepreneurship, importation of unsuitable technology etc. this approach has advocates in Streton (1973) and Streton and Lall (1973). Also, the dependence approach which has advocates in Hymer (1972) and Jos Santos (1970), posits that the inherent dependent status, which FDI brings, can never permit real development in host countries. According to the Marxist approach, FDI bring about neo-imperialism and exploitation, class conflict and economic surplus. It has an advocate in Weisskopf (1972).

Nevertheless, the impact of FDI especially in developing countries can not be over emphasized and the need for continuous search for its relative determinations in various countries can not be exhausted. For instance, Agarwal (1980) while classifying Foreign Direct Investment into its political and economic determinants, identified two political factors, political stability and the threat or nationalization, in conjunction with a variety of economic factors such as investment incentives, the size and growth of recipient market etc. in respect of the impact of political instability, his survey of the literature showed mixed evidence. Also Levis (1979) contribution also lays some emphasis on political factors. He tested the duals hypothesis that economic considerations are the prime determinant of foreign investment flows and that political variable are of residual importance. The model used is step by step regression for 25 developing countries from three continents Africa (Nigeria inclusive), Asia and Latin America. The economic variables turned out to be more important than the political factor. In the same vein Lim (2001) and Joumotte (2004) using feasible generalized least square method conclude that economic factors are more paramount especially the market size of an economy than the political factor.

3. RESEARCH METHODOLOGY

In this section, the methodology of this study is spelt out, and this shall contain model specifications, and data source and measurement.

3.1 MODEL SPECIFICATION

As noted in the literature, the model employed in this paper takes a lead from the models of similar studies such as; Anyawu (1998), Luois (1998) and Joumotte (2004).

The model is thus specified as follows.

$$RFDI = \beta_0 + \beta_1 RGDP + \beta_2 OPN + \beta_3 REXH + \beta_4 EXHV + \beta_5 Pdummy + E_t \quad \text{---------- 1}$$

$1, \beta_2, > 0 ; \beta_3, \beta_4 < 0; \beta_5 <> 0$

Where;

RFDI = Real Foreign Direct Investment

RGDP = Real Gross Domestic Product (Measuring market size)

OPN = Openness of the economy (Export + Import/GDP ratio)

REXH = Real Exchange Rate

EXHV = Exchange rate volatility (This is measure as the standard deviation of the first Log difference)

P_{dummy} = Political factor dummy (1 for civilian govt. zero otherwise).

However, to follow Jose and Julie (2006) the above model is only modified by introducing another exchange rate variable (Exchange rate

volatility) in view of the recent discovery of its relative impact on Direct Investment Flows.

One major criticism of the single equation model is the existence of simultaneous biases in the estimation procedure, namely, that the procedure ignores the existence of a multilateral relationship common among macroeconomic indicators. For instance, inferences from investment acceleration model suggest that economic activity and private investment are mutually reinforcing variable. Thus justified the use of interactive models of vector autoregressive (VAR) type (Bogunjoko, 1998) such as equation 2.

$$Z_t = A_0D_t + A_1Z_{t-1} + A_2Z_{t-2} + \text{-------- } ApZ_{t-p} + E_t \text{ -------2}$$

Where

Z_t = Vector of all variables

Dt = Deterministic Component (intercept and dummy). To estimate intertemporally the relative strength of the explanatory variables (RGDP, OPN, REXH, EXHV, Pdummy) as well as the inter temporal response pattern of foreign Direct Investment to its determinations, equation 1 was re-estimated using equation 2. While the former objective was achieved through the variable decomposition function (table 4.5), the latter objective was estimated through the VAR Model impulse response function (table 4.6).

In order to introduce short run dynamism into our model, equation 2 was modified to its vector error correction (VEC) from, and thus written as;

$$\Delta Z_t = a_0 D_t + a_i \sum_{i=1}^{k} \Delta Z_{t-i} - b_i ECM_{t-i} + E_t \text{ ---------} \quad 3$$

Where;

Dt = Deterministic components including intercept

Zt = Vector of all variables (FDI and its determinants)

Δ = Change (first difference)

All variables as defined earlier with deterministic component treated as exogenous.

3.2 SOURCES OF DATA AND MEASUREMENT

Time series data obtained from Central Bank of Nigeria statistical bulleting (various years) International financial statistics (IFS 2001) and World Bank reports (2003) were used.

All variables are expressed in logarithm form. The estimations were carried out using Econometric views (Eviws) 3.1.

4. RESULTS

In an attempt to give a comprehensive analysis of the role and determinants of Foreign Direct Investment in Nigeria, series of empirical investigations were carried out. These are discussed and analysed in this section.

4.1 BASIC STATISTICS AND TRENDS ON NIGERIA'S FDI

The table below table (4.1) shown the basic statistics of Nigeria's FDI between 1970 and 2006. The results obtained indicate a relatively low volatility as measured by the coefficient of variation, 70.37 percent when compared with the computation of Anyawu (1998), 223.10 percent. We also observed a persistent series for FDI in Nigeria with positive auto-correlations coefficients obtained.

Table 4.1: Basic Statistics on Nigeria's FDI (1970-2006)

STATISTICS	**VALUE**
Mean (Nm)	1882.88
Standard deviation (Nm)	1324.95
Skewiness	0.6849
Ku-tosis	0.600634
Volatility (coeff of variation)	70.368
Persistence:-	(a) Positive autocorrelation
(a) Autocorrelation	AR_1 (0.15)
	AR_2 (0.41)
	AR_3 (0.21)
	AR_4 (0.21)
(b) Half-life from impulse response function	(b) 1

Source: Author's calculations

We present below the trends in the growth of nominal and real foreign Direct Investment in Nigeria within the period of our analysis (1970-2006). The trends show a positive flow of FDI in Nigeria.

Fig 1:

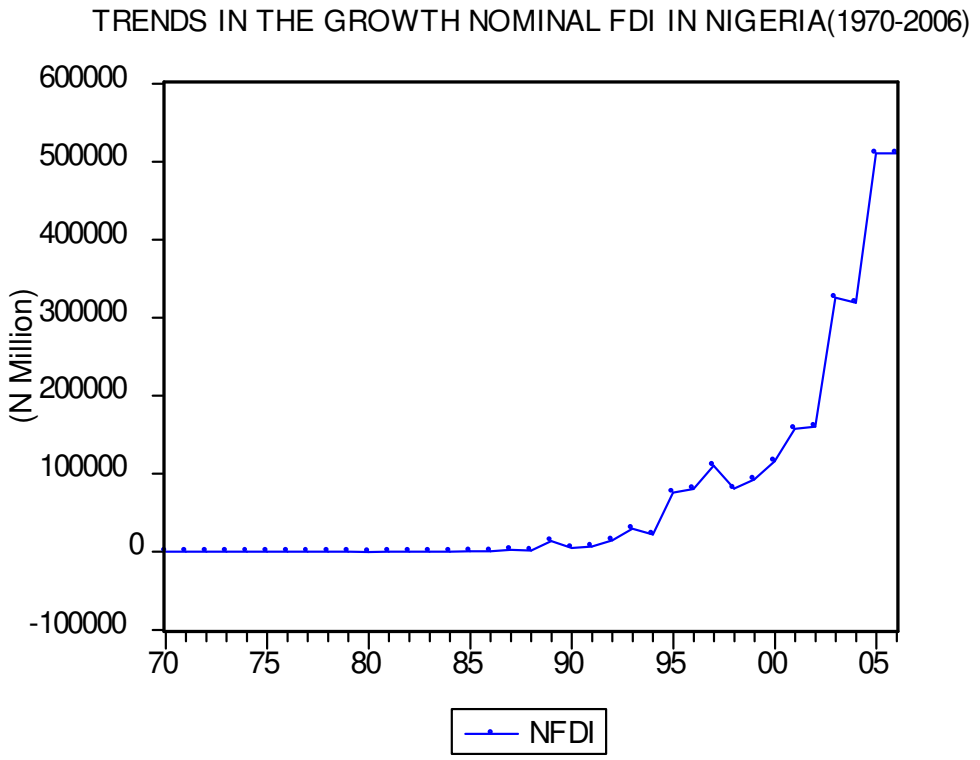
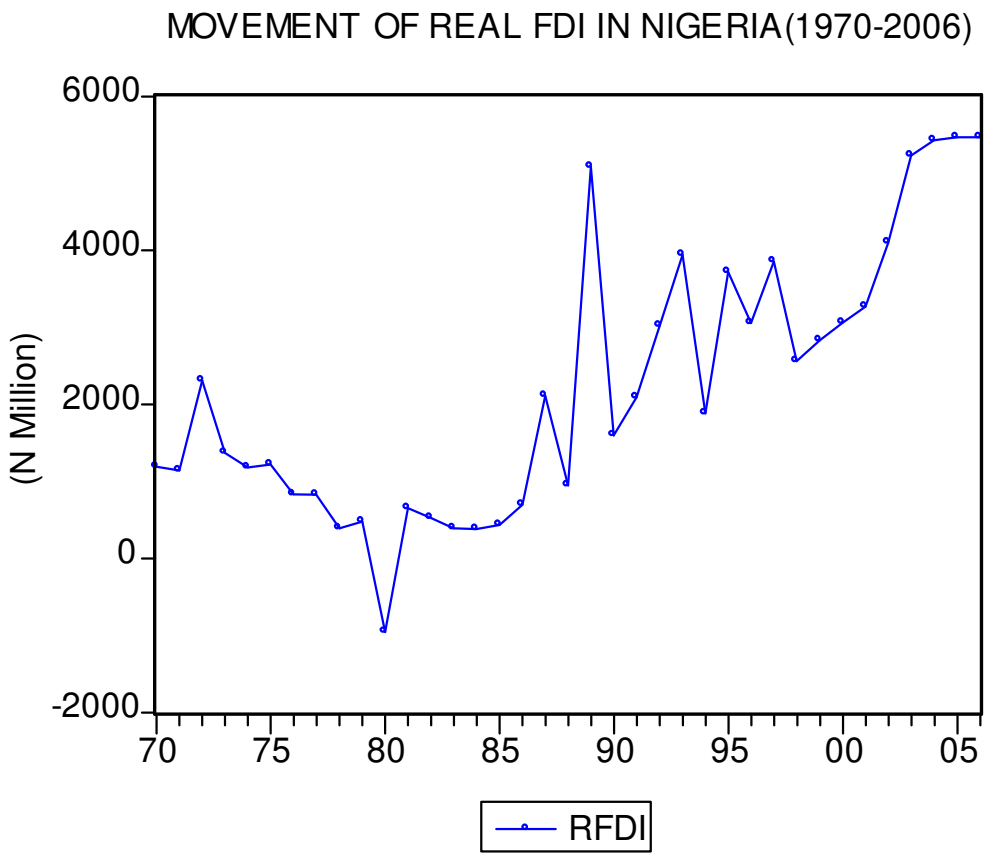


FIG 2:



4.2 **ANALYSIS OF DETERMINANTS OF NIGERIA'S FDI**

As a preliminary step to testing for cointegration in equation (2), we execute both augmented Dickey. Fuller (ADF) and Phillips Perron unit root tests statistics on the series used. The results are summarized in table 4.2a and 4.26 (appendix). We incorporated. Philips Perron tests to capture the effects of shift dummy (Political factor dummy). The results show that all the series (except openness of the economy which is I (0) using ADF)

appeared to be realization from integrated processes of order one. The null hypothesis of non-stationarity is only rejected in openness and not in other variables. Thus, according to Anyawu (1998), these variables can potentially contribute to the long run determination of Nigeria's FDI.

Give these results, we are justified in testing for cointegration in equation (3), the results of the test is shown in table 4.3 (appendix). The likelihood ratios finally indicate one cointegrating vector.

To focus mainly on our interest, we analyze based on error correction model estimates (table 4.4 in the appendix). The resulting estimate appear to be quite adequate in term of high R-square (0.78) and adjusted R-Square (0.76) and residuals that are approximately white noise. The equation shows strongly significant and large error correction coefficient (0.79) indicating rapid adjustment and demonstrated the importance of the variables used in explaining FDI in Nigeria.

As can be observed (table 4.4), all variables (except openness) turn out with their theoretically predicted signs and in general are statistically significant. The variable, exchange rate volatility turn out to be detrimental to the model, that it replacement with average tax rate as computed by Anyawu (1998), surprisingly, our variable of interest (Political factor) turn out with a negative sign (-0.44) and statistically significant. This contradicts the result obtained by Anyawu (1998) but corroborates that of

Louis (1998). The negative sign obtained we can attribute to the long period of military administration (24 years of period of analysis) compared to the civilian rule. Also, various problems associated with democratic rules (such as corruption, civil unrest, money laundering etc) in the country within the period of our analysis.

The result further indicate that within the short run spectrum the FDI rises domestic market size (Measured by RGDP) increases and fall if the average corporate tax increase. The rise in the real exchange rate of naira to US dollar has an adverse effect on Nigeria FDI flows.

In a step by step regression analysis, we observed further that, the variable openness of the economy was the one that is turning our political factor variable negative and significant prompting us to support earlier authors (Anyawu,1998; and Louis,1998) that current and future government should handle their various trade liberalization policies with caution.

As said in section 3, we estimate inter-temporally the relative strength of the explanatory variables (RGDP, OPN, RECH and PD) on the pattern of FDI flows in Nigeria using variance decomposition function (table 4.5). it was observed from the result that real exchange rate and real gross domestic product show a relative powerful influence on the FDI under the period of our analysis, while, openness and average tax rate

indicate a relatively low influence (Political factor treated as exogenous) in table 4.6, we show the response pattern of REDI using the VAR model impulse response function. The result shows a positive response of Real Foreign Direct Investment to a unit shock in each of the explanatory variables. Though, the multiplier is low ranges from 0.02 to 0.12.

5. **CONCLUSION**

In this paper, we investigate the relevance of the theoretical determinant of FDI to Nigeria our main focus is on the effect of political factor which was found statistically significant. In order to shed light on the underlying short-run dynamics of Nigeria's FDI flow, we employed error correction mechanism, where various pre-whitening tests were carried out.

On the strength of our findings, a number of policy can be deduced, if these results stand out in further investigation, it implies that Nigeria must aim for higher and a wider market size as it enhance or encourages more FDI inflow.

REFERENCES

Akinlo A.E(2004) "Foreign Direct Investment and Growth in Nigeria: An Empirical Investigation" ***Journal of Policy modeling*** *26:627-639.*

Anyawu J.C.(1998) "An Econometric Investigation of determination of FDI in Nigeria(1970 - 1996)" ***NES conference paper****. 218-240.*

Bannock G. (1971) The Juggernauts: The age of the Big Corporation. London: ***Weedenfield and Nicolson.***

Behrman N.J. (1970) ***National Interests and Multinational Enterprises****. Tension Among the North-Atlantic Countries Englewood Cliffs. Prentice Hall.*

Central Bank of Nigeria, Statistical Bulletin ***various years****.*

Di Giovanni. J. (2005), "what Drives Capital Flows? The case of cross-border MPA Activity and Financial Deepening". ***Journal of International Economics****. 65.*

Edozien E.G. (1968) "Linkages, direct foreign investment and Nigerian Economic Development". ***The Nigerian Journal of economic and Social Science*** *10(2). 119-203.*

Jos Santos (1970) The Structure of Dependence. ***American Economic Review Paper and Proceedings***

Kindleberger C.P (1969) ***American Business Abroad****, New Haven: Yale University Press.*

Lall S. (1974) Less Developed Countries and Private Foreign Direct Investment: ***A review article World Development****. Vol.2 No 4 and 5*

Lim. E.G. (2001) "Determinants of, and the Relationship Between, FDI and Growth:| A summary of the recent literature." ***IMF working paper*** *01\175.*

Louis N.C (1998) " Determination of FDI: An Error Correction Specification" ***Journal of economic and Social Studies*** *.Vol.40 No1.*

Oladipo. O.S. (1997) "Trade Liberalization and Economic Growth". ***Ife Social Science Review*** *Vol. 15 No 5 .*

Oyinlola. O (1995) "External capital and Economic Development in Nigeria (1970-1991)" ***The Nigeria Journal of Economic and Social Studies*** *37(2&3) 205-221.*

Streeton P and S. Lale (1973) Summary of methods and findings of study of private foreign manufacturing investment in six LDCO7 ***UNCTAD,*** *Geneva May.*

Streeton P.P (1973) The Multinational enterprise and the theory of development policy. ***World Development.***

Weisskopf, T.E. (1972) Capitalism, underdevelopment and the future of the poor countries. In ***Economics and the World Order*** *Bhagwati, J.N. ed. New York Macmillan.*

*World Bank (2003) Financial flows and the Developing countries****. A World Bank Business Quarterly****. Quarter 3*

Vernon, R.(1971) " Sovereignty At Bay: The Multinational spread at U.S Enterprises New York" ***: Basic Book*** .

Table 4.2a: Testing the order of Integration/Unit Root Test

LEVELS

Series	ADF t-statistics with constant	ADF t-statistics constant and trend	Lag length
RFDI	1.569	0.056	2
REXH	-2.691	-2.142	2
OPN	-3.101	-3.540	2
AVTR	2.052	1.172	2
EXHV	2.513	0.208	2
RGDP	-1.789	-1.662	2

APPENDIX

Table 4.2b: Testing the order of Integration/Unit root test. Frist differences

Series	ADF t-sta. With constant	ADF t-sta. with constant and trend	Philips Perron (pp) Constant & trend)	Lag length /truncation
∆RFDI	-3.255[b]	-3.876[b]	-7.446[a]	2
∆REXH	-3.062B	-3.452	-6.424A	2
∆OPN	-	-	-3.059A	2
∆AVTR	-1.909	-3.362	-3.53	2
∆EXHV	-1.771	-3.457[c]	-4.915[a]	2
∆RGDP	-3.730[a]	-3.876[b]	-10.661[a]	2

Table 4.3: Johansen Cointegration test

Null	Alternative	Eigen values	Likelihood ratio	5 percent critical	I percent critical	Hyp. No of CE (s)/ Rank
R=0	r = 1	0.809	116.68	94.15	103.18	None[x]
r ≤ 1	r =2	0.624	66.93	68.52	76.07	At most 1
r ≤ 2	r = 3	0.459	37.57	47.21	54.46	At most 2
r ≤ 3	r = 4	0.403	19.16	29.68	35.65	At most 3
r ≤ 4	r =5	0.109	3.69	15.14	20.04	At most 4
r ≤ 5	r = 6	0.008	0.24	3.76	6.65	At most 5

x (xx) denotes rejection of the hypothesis at 5% (1%) significant level. L.R. test indicate 1 cointegrating equation (rank) at 5% level of significance.

Table 4.4: Determinants of FDI in Nigeria (Error Correction Estimates)

Dep. Variable: ∆LNRFDI

Series	**Coefficient**	**t. value**	
Constant	0.38	4.80[a]	
in∆ RGDP	0.14	2.98[b]	R^2 = 0.78
In∆REXH	-0.09	-0.34	R^2 = 0.76
In∆OPN	-0.02	-0.14	AIC = 1.409
In∆AVTR	-0.78	-1.98[c]	Sc = 1.73
PD*	-0.44	-2.06[b]	LR = -15.55
ECM (-1)	-0.79	-4.86[a]	

a,b,c indicate significant at 1%, 5% and 10% respectively.

* Political dummy was treated as exogenous to the model.

Table 4.5: Variance Decomposition of real FDI

Period	RFDI	RGDP	IVT	OPEN	REXR
1	100.0	0.00	0.00	0.00	0.00
2	85.70	7.12E-06	11.07	0.15	1.94
3	55.49	14.03	6.69	2.65	14.94
4.	49.03	11.37	8.72	2.49	17.03
5	45.85	10.25	7.85	3.223	15.96
6	45.28	9.20	8.31	2.24	15.41
7	44.71	8.79	8.00	3.43	15.24
8	43.99	8.39	7.88	3.51	15.56
9.	43.15	8.08	7.69	3.62	15.78
10	42.49	7.73	7.61	3.70	15.87

Ordering: REFDI, RGDP, OPEN, AVCR, REXR

Table 4.6: Inter temporal response pattern of foreign Direct Investment in Nigeria

Period	RFDI	RGDP	IVT	OPEN	REXR
1	0.12	0.00	0.00	0.00	0.00
2	0.02	-3.4E-05	-0.04	-0.005	0.00
3	0.05	-0.07	0.01	-0.03	0.06
4.	0.04	-0.002	-0.03	-0.01	0.04
5	0.05	-002	-0.02	-0.02	0.03
6	0.05	-0.01	-0.03	-0.01	0.02
7	0.05	-0.01	-0.03	-0.01	0.02
8	0.05	-0.02	-0.02	-1.02	0.03
9.	0.04	-0.02	-0.02	-0.02	0.03
10	0.04	-0.01	-0.02	-0.02	0.03

Ordering: REFDI, RGDP, OPEN, AVCR, REXR.