Factors Determining FDI in Nigeria: An Empirical Investigation

Dinda, Soumyananda

Chandragupt Institute of Management Patna, Bihar, India

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Soumyananda Dinda

Chandragupt Institute of Management Patna, Bihar, India

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Abstract

This paper investigates the recent surge of FDI in Nigeria, which is poor in terms of income but rich in natural resources. This study examines empirically whether FDI is resource seeking in Nigeria and its determining factors. Applying time series technique this paper observes that FDI flow to Nigeria is resource-seeking FDI during 1970-2006. In long run, the natural resource outflow, market size and openness have direct impact on FDI inflow while risk factors like inflation rate and foreign exchange rate have indirect effect. Finding in long run supports the literature. The contribution of this paper is the short run dynamics among major macroeconomic variables and direction of their causal linkage. It should be helpful for policy makers and macroeconomics managers for managing the nation.

Key Words: FDI, Natural resource export, exchange rate, openness, inflation rate, VECM.

JEL *Classification Number*: C_{13}, F_{18}, Q_{32}, O_{13}, Q_{43},

1. Introduction

Africa has created business opportunity in the region and attracts the global business recently. In this direction, many African countries have reformed their economic policy, investment laws and also improving financial system. Political instability, internal conflict and poor governance till pose significant problems to many countries in Africa. In spite of these problems, the recent surge of foreign direct investment (FDI) is very high in Africa, especially in Sub-Saharan Africa. FDI in Sub-Saharan Africa increases mainly in the primary sector because of the existence of vast natural resources. It is consistent with the UNCTAD data – three largest recipients of FDI are South Africa, Nigeria and Angola. All of them are natural resource rich countries[1]. Perhaps these FDIs in Sub-Saharan Africa are natural resource-seeking FDI. Specifically, this study focuses on FDI in Nigeria, which is poor in terms of income but rich in natural resources. This paper attempts to find the answers of the following basic questions: Are FDIs resource seeking in Nigeria? What are the determining factors of FDI inflow to Nigeria? This study analytically investigates on these.

The main objective of the FDI in resource rich country is to extract natural resources and sale them in the international market through exports. Automatically these activities will affect foreign exchange as well as price level in the domestic market which again stimulate to FDI inflow through possible raising natural resources exports. All these will affect the whole economy. Openness or trade liberalization is a crucial policy variable through which all other variables are affected and boost up economic development. In this context, applying time series technique, this paper investigates empirically the interrelation among major macroeconomic variables and resource-seeking FDI in Nigeria.

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[1] It is noted that the demand for Africa's natural resources in international market, particularly oil and mineral, is increasing since 1990s. The United States for instance, has been reducing its dependence on Middle, and increasing its interest on supplies from Africa.

1.1 Natural Resource in Nigeria and FDI inflow

Nigeria is one of the countries in Western Africa richly endowed with natural resources – mainly oil and gas, mineral deposits, vegetation etc. Nigeria's natural resource balance is dominated by petroleum. Known oil reserves could last for another 30 - 40 years. The country has coal reserves but production is substantially lower than potential.

The UNCTAD World Investment Report 2006 shows that FDI flow to West Africa is mainly dominated by Nigeria, who received 70 percent of the sub-regional total and 11 percent of Africa's total. Out of this Nigeria's oil sector alone receive 90 percent of the FDI flow. FDI flow was low in pre- 1990's but post 1990's it remarkably changes especially in the 21st century. This recent improved performance in FDI flow to Nigeria calls for need to investigate factors that determine its inflow.

1.1.1 Nigeria reforms to create the *Business Opportunity*

The Nigerian Government adopts several policies to attract FDI in 1980s and 1990s decades. Particularly, the government implemented IMF monitored-liberalization of its economy, welcomes foreign investors in the manufacturing sector, offers incentives for ownership of equity in all industries except key industries like military equipment. The incentives like tax relief are available to investors and concessions for local raw material development. In line with its economic reforms, starting from the 1980s, Nigeria undertook a far reaching privatization programme. This change starts in 1989 and onwards due to several policies (like introduction of Structural Adjustment Programme in 1986, Export Processing Zones Decree in 1991, Investment Promotion Commission in 1995) adopted by the Nigerian government.

1.1.2. Literature Review

Literature discusses the major determinants of FDI that are domestic market size, economic growth, technological capability, infrastructure, government policy, institutions, and other factors. FDI works as a means of integrating under developed countries into the global market and rising capital availability for investment and bringing managerial skills and technology.

Gastanga et al. (1998) examined the effects of various policies on FDI flows interms of location and ownership. Wheeler and Mody (1992) and Hines (1995) incorporate institutional factors like host country's risk and corruption. Asiedu (2002, 2006) explore the impact of natural resources, market size, host country's investment policy, corruption and political instability on FDI inflow. Asiedu (2006) suggested that low inflation and efficient legal system promote FDI but corruption and political instability had opposite effect.

Obadan (1982) confirmed the role of protectionist policies (tariff barriers). Anyanwu (1998) and Iyoha (2001) have studied on the determinants of FDI in Nigeria. Anyanwu's (1998) pointed out national effort is required to create business opportunity in country to attract FDI. Iyoha (2001) examined the effects of macroeconomic instability and uncertainty, economic size and external debt on foreign private investment inflows. He shows that market size attracts FDI to Nigeria whereas inflation discourages it.

Major limitations of these studies are the traditional econometric technique and non-consideration of natural resource in determination of FDI inflow. Using time series technique on annual data of Nigeria, this paper examines the FDI inflow and its determinants. In long run, the natural resource outflow, market size and openness have direct impact on FDI inflow while risk factors like inflation rate and foreign exchange rate have indirect effect and findings support the existing literature. The

contribution of this paper is the short run dynamics as well as causal linkage among major macroeconomic variables.

The paper proceeds as follows: Section 2 describes the data and methodological framework. Section 3 discusses the empirical results and finally Section 4 concludes.

2. Data and Methodology

Inflation and foreign exchange rate, external debt, infrastructure, corruption or rule of law, efficient government and policy variables like openness and other factors are required for analysis but due to limited available data over time this study is confined with few of them. The major variables are FDI, market size, exchange rate, inflation rate, openness, natural resource[2].

2.1 Data

For this study the data are taken from four main sources – viz., the Penn World Table, UNCTAD, World Investment Report (2006, 2008), World Bank and the Central Bank of Nigeria. Data for FDI, inflation rate and natural resource (mainly oil export) are obtained from the Central Bank of Nigeria (statistical reports). Real GDP per capita

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[2] The components of *FDI* are equity capital, reinvested earnings and other capital (mainly intra-company loans). As countries do not always collect data for each of those components, reported data on FDI are not fully comparable across countries. In particular, data on reinvested earnings, the collection of which depends on company surveys, are often unreported by many countries (UNCTAD Handbook of Statistics). The *market demand* is one of the important determinants that have been used in empirical studies to explain the inflow of FDI to a host country. This is because investment opportunities in countries with large markets tend to be more profitable for the foreign firms. The variable that has been widely used to proxy market size is per capita income of a country. The GDP per capita reflects the income level of the whole economy (Chakrabarti 2001). A country with relatively *weak currency* attracts more FDI than one with strong currency. The *inflation rate* is used as a measure of overall macroeconomic stability of a country (Asiedu 2002). High inflation rate can serve as disincentive on FDI to a country as it increases the user cost of capital. *Openness* is measured as the ratio of export and import to GDP. It is also termed as trade intensity which refers to the ease with which capital can be moved in or out of a country by investors (Chakrabarti 2001). The availability of *natural resources* might be a major determinant of FDI to host country. FDI takes place when a country richly endowed with natural resources lack the amount of capital or technical skill needed to extract or/and sale to the world market. Foreign firms embark on vertical FDI in the host country to produce raw materials or/and inputs for their production processes at home. This means that certain FDI may be less related to profitability or market size of host country than natural resources which are unavailable to domestic economy of the foreign firms.

(at 1996 constant international price, dollar), foreign exchange rate and openness are taken from the Penn World Table 6.2, and world total export and total FDI are taken from UNCTAD handbook of statistics 2007 (see the website for details: http://stats.unctad.org/Handbook). All these Nigerian data covers the period from 1970 to 2006.

In literature, generally, *FDI flow* is defined as the ratio of FDI to GDP and *resource flow* as ratio of natural resource export to total export of a country. Traditional approach considers that everything is endogenous but ignores the development of the rest of the world. Ideally this paper incorporates it and accordingly FDI flow is redefined as the ratio of FDI to Nigeria (FDI_N) to total FDI in the world (FDI_W), i.e., FDI flow = FDI_N/FDI_W. So, it is basically a share of the World FDI goes to Nigeria. Similarly natural resource outflow is also redefined as the ratio of Nigeria's natural resource export (NRX_N) to the world resource export (NRX_W), i.e., NRX = NRX_N/NRX_W. NRX is a share of the world resource exports going out from Nigeria. Inflation and foreign exchange rate represent the macroeconomic risk factors.

2.2 Methodology

This paper follows a systematic time series econometrics approach. Common practice among econometricians is to test whether nature of time series data are stationary or non-stationary, observe the order of integration and test the co-integrating relation[3] among variables having higher integrating order. Error correction model (ECM) provides the short run dynamics with long run equilibrium relationship. In the

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[3] Johansen (1988) approach provides the number of co-integration equations among variables.

multivariate framework[4] the Vector Error Correction Model (VECM) is more appropriate. VECM is a sophisticated econometrics technique which can be used for empirical investigation of the determinants of FDI in short run and long run.

3. Results

Primary concern of this study is to find the long run relationship between FDI inflow and resource outflow. Fig 1 shows the long run relation of FDI inflow and resource outflow over time.

Fig 1. FDI inflow to Nigeria and Natural resource export during 1970-2006
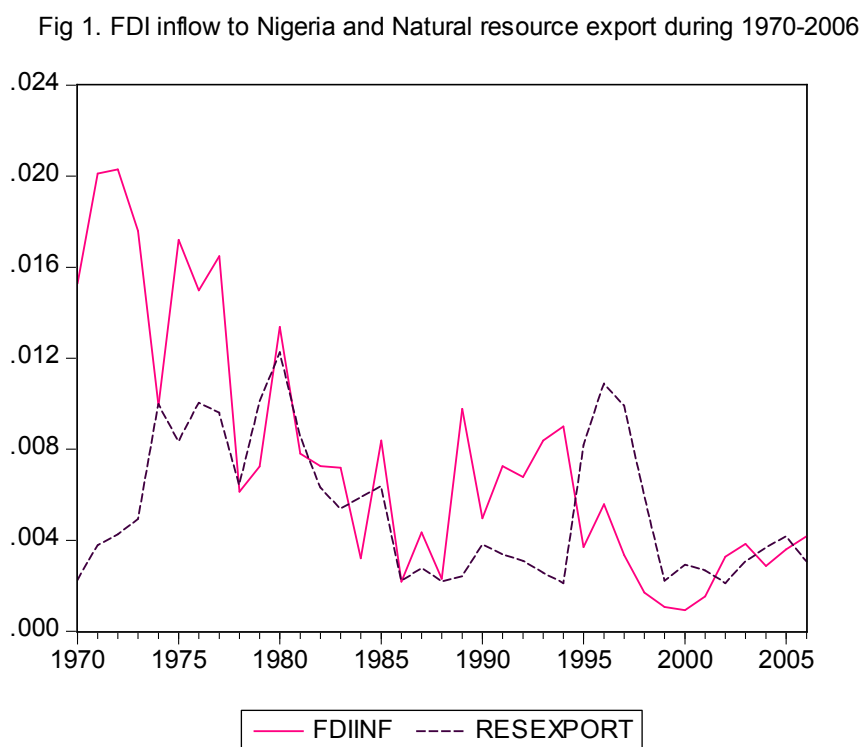
From Fig 1 it is clear that there is a co-movement between natural resource outflow and FDI inflow to Nigeria during 1970-2006. So, co-integration technique is appropriate for this study.

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[4] Engle and Granger (1987) 2 stage approach, Engle-Granger-Yoo (1991) 3-step approach, Johansen (1988), Johansen and Juselius (1990) maximum likelihood approach, Pesaran and Shin (1995) and Pesaran-Shin-Smith (1996, 2001) bounds testing approach or known as the auto-regressive distributed lag (ARDL) approach. There is clear cut evidence which shows one approach to be consistently superior to the others.

3.1 Basic Results

Following a systematic time series econometrics approach, Table 1 presents the results of unit root and co-integration tests. In this study the unit root tests confirm that all the variables are non-stationary at level. Augmented Dickey Fuller (ADF) and Phillips Perron (PP) tests also confirm that all the variables are difference stationary (Panel A of Table 1). Hence Unit Root Test results strongly suggest that all the variables are integration of order one or I(1).

Table 1: Results of Unit root and Co-integration test

A: Unit Root Test				
List of Variables	Level		1st Difference	
	ADF	Phillips-Perron	ADF	Phillips-Perron
FDI	-2.16(4)	-2.18	-9.86***(3)	-16.06***
Natural Resource	-3.27(3)	-2.53	-4.76***(2)	-5.52***
Inflation rate	-3.0001(5)	-2.89	-5.74***(2)	-10.72***
Foreign Exchange rate	1.3 (4)	-0.64	-5.88***(1)	-5.89***
GDP	-0.95 (3)	-1.05	-5.49***(2)	-5.487***
Open	-1.73 (2)	-3.44	-10.7***(1)	-10.703***
B: Co-integration Test				
Hypothesizes Co-int. equations	Eigen value	Trace statistics	Critical value	Probability
None***	0.718177	111.1014	95.75	0.003
At most 1	0.63152	66.77	69.82	0.085
At most 2	0.36924	31.83189	47.856	0.6214
At most 3	0.229338	15.70283	29.797	0.733
At most 4	0.17049	6.585138	15.4947	0.6263
At most 5	0.00122	0.042753	3.84147	0.8362

Note: *** and ** denote the level of significance at 1% and 5%, respectively. Figures in parenthesis are Lag numbers.

Table 2: Estimated Co-integrating Vector

Variables	Estimated Co-integrating Vector
FDI	1
NRX	-0.2443***
	(-3.2)
GDP	-2.02×10^{-05}***
	(-12.66)
INFLA	0.00013***
	(10.18)
OPEN	-9.11×10^{-05}***
	(-6.62)
FX	0.00011***
	(18.88)
C	0.0153

Note: (i) Figures in parenthesis are t-statistics. (ii) ***, ** and * denote
the level of significance at 1%, 5% and 10%, respectively.

Panel B of Table 1 presents the results of co-integration test. At 5 percent level of significance, results confirm co-integrating equation that the interrelation among macroeconomic variables provides the long run equilibrium trajectory. The findings suggest that natural resource, economic development or market size, inflation and foreign exchange rate are crucial for FDI to Nigeria during 1970-2006 (Table 2). The estimated long run equilibrium or co-integrating relation is

$$FDI=-0.0153+0.2443*NRX+0.00002*GDP-0.00013*INFLA+0.00009*OPEN-0.00011*FX+u \qquad (1)$$

Where u is the error term. From the equation (1), in long run, the natural resource outflow, GDP (proxy of market size) and openness have strong and significant direct impact on FDI inflow while risk factors like inflation rate and foreign exchange rate have significant indirect effect. These results support the existing standard literature. Next we discuss the estimated results of VECM and short run dynamics, if any, in details.

3.2: VECM Results

Table 3 provides the estimated coefficients in vector error correction model. It is consists of two parts: (i) error correction (EC) and (ii) vector autoregressive part.

Table 3: Estimated Error Correction terms in VECM

Variables	D(FDI)	D(NRX)	D(FX)	D(GDP)	D(INFLA)	D(OPEN)
Error Correction	**-0.76354****	**0.61945*****	**-1880.8*****	**14236.04****	1168.599	1944.876
	(-2.32)	**(3.55)**	**(-2.14)**	**(2.04)**	(0.63)	(1.28)
D(FDI(-1))	-0.19174	**-0.52047*****	**2247.02*****	1545.89	1057.76	-586.394
	(-0.6)	**(-3.09)**	**(2.65)**	(0.23)	(0.59)	(-0.4)
D(FDI(-2))	-0.0576	-0.187	802.03	7958.75	351.27	-692.37
	(-0.18)	(-1.1)	(0.93)	(1.17)	(0.19)	(-0.47)
D(FDI(-3))	-0.1706	-0.033	510.52	1072.94	-488.81	-1385.78
	(-0.73)	(-0.27)	(0.82)	(0.22)	(-0.37)	(-1.29)
D(NRX(-1))	0.675	-0.14	-183.98	1056.4	2065.5	-90.62
	(1.24)	(-0.49)	(-0.13)	(0.09)	(0.67)	(-0.04)
D(NRX(-2))	-0.249	-0.3	693.55	2360.8	**-5584.15****	-2123.46
	(-0.534)	(-1.22)	(0.56)	(0.24)	**(-2.13)**	(-0.99)
D(NRX(-3))	0.292	-0.05	**2767.49****	-4906.25	-779.99	88.49
	(0.62)	(-0.2)	**(2.2)**	(-0.49)	(-0.29)	(0.04)
D(GDP(-1))	-0.000007	**-0.00001****	0.00065	-0.09	0.06	0.027
	(-0.63)	**(-2.37)**	(0.02)	(-0.4)	(0.94)	(0.53)
D(GDP(-2))	0.000002	0.000004	0.02	-0.09	0.038	0.02
	(0.17)	(0.5)	(0.5)	(-0.32)	(0.5)	(0.3)
D(GDP(-3))	-0.000001	0.000005	0.049	0.14	-0.03	-0.009
	(-0.08)	(0.74)	(1.47)	(0.53)	(-0.42)	(-0.16)
D(INFL(-1))	**0.00017****	-0.000025	0.275	-2.2774	-0.09	-0.178
	(2.39)	(-0.67)	(1.46)	(-1.52)	(-0.23)	(-0.55)
D(INFL(-2))	0.0001*	-0.00002	-0.154	-1.168	**-0.7724****	-0.31
	(1.93)	(-0.68)	(-1.05)	(-1.0)	**(-2.49)**	(-1.22)
D(INFL(-3))	0.00006	0.00002	0.0077	**-2.9882****	-0.2526	0.071
	(0.84)	(0.57)	(0.04)	**(-2.07)**	(-0.66)	(0.23)
D(OPEN(-1))	-0.00007	0.00003	-0.06	3.1443*	-0.5723	-0.364
	(-0.8)	(0.72)	(-0.26)	(1.75)	(-1.2)	(-0.93)
D(OPEN(-2))	0.000074	**0.00012****	-0.24	2.1	0.409	0.41
	(0.79)	**(2.47)**	(-0.96)	(1.06)	(0.78)	(0.95)
D(OPEN(-3))	0.000042	0.00008*	**-0.92352*****	1.75	0.387	0.09
	(0.49)	(1.73)	**(-4.05)**	(0.97)	(0.8)	(0.23)
D(FX(-1))	0.000047	-0.000015	0.39294	-0.57	-0.404	-0.107
	(0.62)	(-0.38)	(1.96)	(-0.36)	(-0.95)	(-0.3)
D(FX(-2))	0.00002	-8.8×10^{-7}	0.176	0.045	-0.134	-0.032
	(0.4)	(-0.03)	(1.2)	(0.04)	(-0.43)	(-0.125)
D(FX(-3))	0.000055	-0.000013	0.14	-0.475	-0.072	0.02
	(1.11)	(-0.48)	(1.04)	(-0.45)	(-0.26)	(0.09)
Other variables	-0.00123	-0.00073*	**5.25649****	3.14	2.54	0.884
	(-1.48)	(-1.65)	**(2.37)**	(0.18)	(0.54)	(0.23)

Note: (i) Figures in parenthesis are t-values. (ii) ***, ** and * denote the level of significance at 1%, 5% and 10%, respectively.

The VECM results suggest the following statistically significant short run relations:

$$\Delta FDI_t = -0.76354 \ast EC_{t-1} + 0.00017 \ast \Delta INFLA_{t-1} + \varepsilon_{1t} \tag{1.1}$$

$$\Delta NRX_t = 0.61945 \ast EC_{t-1} - 0.52047 \ast \Delta FDI_{t-1} - 0.00001 \ast \Delta GDP_{t-1}$$

$$+ 0.00012 \ast \Delta OPEN_{t-2} + \varepsilon_{2t} \tag{1.2}$$

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$$\Delta GDP_t = 14236*EC_{t-1} - 2.9882*\Delta INFLA_{t-1}+\varepsilon_{3t} \tag{1.3}$$

$$\Delta FX_t = -1880.8*EC_{t-1}+2247.02*\Delta FDI_{t-1}+2767.49*\Delta NRX_{t-3} - 0.9235*\Delta OPEN_{t-3}$$

$$+5.2565*C+\varepsilon_{4t} \tag{1.4}$$

$$\Delta INFLA_t = -5584.15\Delta NRX_{t-2} -0.7724\Delta INFLA_{t-3}+\varepsilon_{5t} \tag{1.5}$$

$$\Delta OPEN_t = \varepsilon_{6t} \tag{1.6}$$

Where ε_ts are white noise and C is other variables which are not included in this VECM.
Equations (1.1) – (1.6) display the short run dynamics among the variables in VECM.
Equation (1.1) shows that current change in FDI directly depends on that of inflation
rate in last year. The coefficient of error correction (EC) term is negative and
statistically significant. It suggests that if any departure from long run equilibrium
path in last year then it will correct the last year's error and moves towards
equilibrium path. Equation (1.2) indicates that current change in Natural Resource
Export (NRX) depends on change in openness, GDP and FDI. Coefficient of error
correction term is positive which suggest that if any departure from long run path it
diverges consecutive years.

Equation (1.3) suggests that last year's change in inflation rate affects current change
in GDP. Equation (1.4) identifies that current change in Foreign Exchange rate (FX)
depends on that of FDI, natural resource outflow and openness. There are some
exogenous variables which also influence the current change in FX. Inflation rate
change (equation (1.5)) is autoregressive and also depends on natural resource
outflow. VECM result, especially equation (1.6), clearly shows that openness is
independent policy variable. Change in openness in last year directly influences the
change in natural resource outflow in current year while indirectly influence the

current change in foreign exchange rate. Inflation rate change in last year has direct and indirect impact on the current change in FDI and GDP, respectively.

Equations (1.1) – (1.6) also provide the causality direction in short run (in Granger causality sense). In brief, the following is the interrelated causality direction:
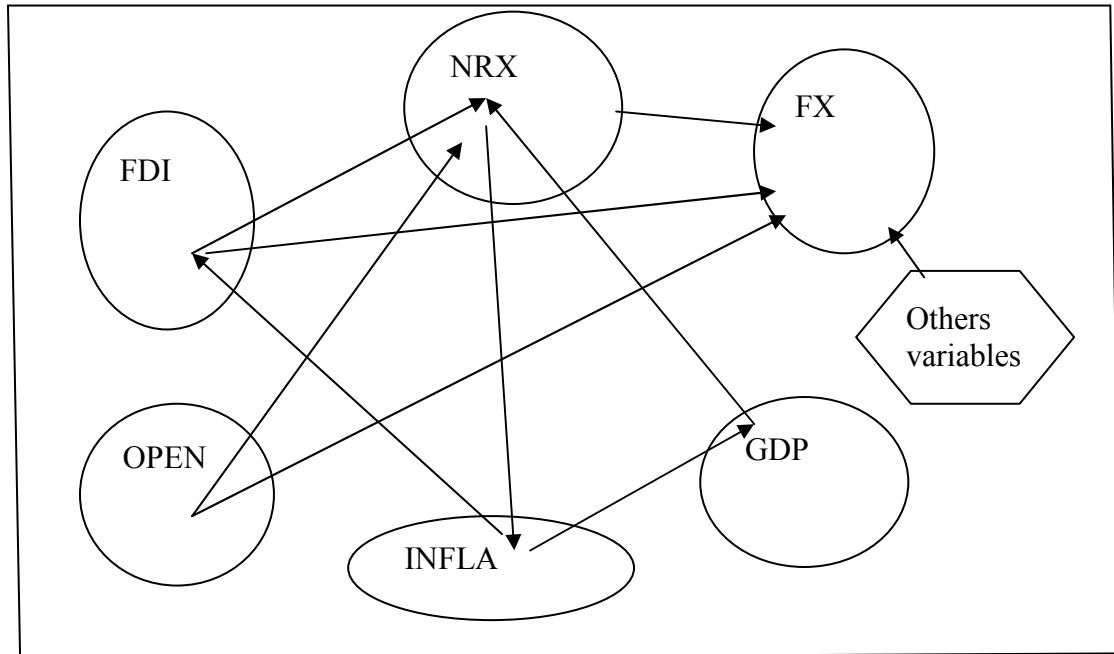

Diagram 1: Integrating relation among major macroeconomics variables in Nigeria

In the diagram, the arrow headed lines indicate the direction of causality in short run. Initially, for example, the Government of Nigeria adopts the openness or trade liberalization policy. This openness policy is the cause of the natural resource outflow which is the cause of raising the price level or inflation. This rising price or inflation affects both FDI and GDP as in diagram. Again both GDP and FDI are the cause of natural resource outflow[5]. There are two strong triangles – one triangular relation among inflation, FDI and resource outflow (i.e., INFLA => FDI => NRX), other is among inflation, GDP and resource our flow (i.e., INFLA=> GDP => NRX). Natural

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[5] Empirical results suggest that inflation has direct relation with FDI inflow and indirect with GDP. It means that inflation is the direct cause of FDI inflow but GDP in opposite direction.

resource outflow is the main attractor and inflation rate is the reactor to start the economy in motion. Openness, FDI and resource outflow are jointly cause of foreign exchange rate (FX). It is clear from the above diagram and equation (1.4) that there are other variables which might be external factors that also influence foreign exchange rate. To capture these external factors we should incorporate the trading partners or major economic players having influence Nigerian economy in this globalized era.

4. Conclusion

Applying VECM this study empirically investigates long run determinants of FDI flow to Nigeria and short run dynamics during 1970-2006. The findings suggest that the endowment of natural resources, macroeconomic risk factors and policy variable like openness are significant determinants of FDI flow to Nigeria. The finding on long run relation supports the literature. The findings also suggest that FDI flow to Nigeria can be explained by resource-seeking FDI which has strong influence on Nigeria's natural resource export to the global market.

The positive role of natural resource-seeking FDI suggests for creating more conducive investment environment through socio-political and economic stability in the country. To attract FDI the government should intensify the trade liberalisation policy and at the same time country should be cautious about international political crises and avoid any social unrest that discourages foreign investment.

This study has several limitations. The results may change if sufficient data on domestic employment in foreign companies, bilateral FDI flow and trading partner's economic activities are available and incorporate in the model. Future study will focus on these issues especially on the role of trading partners on FDI and economic development.

Refernces

Asiedu, E. 2006. "Foreign Direct Investment in Africa: The Role of Natural Resources, Market Size, Government Policy, Institutions and Political Instability." *United Nations University*.

Asiedu, E. 2002. "On the Determinants of Foreign Direct Investment to Developing Countries: Is Africa Different?" *World Development*, Vol.-30(1): 107-119.

Banerjee, A., J. W. Galbraith, and D. F. Hendry. 1993. *Co-integration, Error correction and the econometric analysis of non-stationary data*, New York, Oxford University Press.

Chakrabarti, A. 2001. "The determinants of foreign direct investment: Sensitivity analyses of cross-country regressions." *Kyklos* 54: 89-112.

Chakraborty, C. and P. Basu. 2002. "Foreign Direct Investment and Growth in India: A Co-integration Approach, Applied Economics." 34(9): 1061-1073.

Enders, W. 2004. *Applied Econometric Time Series*, 2nd ed. New Jersey; John Wiley and Sons.

Engle, R. F. and C. W. J. Granger. 1987. "Cointegration and Error Correction, Representation, Estimation and Testing" *Econometrica:* 251-276.

Engle, R. F. and B. S. Yoo. 1991. "Cointegrated Economic Time Series: An Overview with New Results." in Engle, R.F. and Granger, C. W. J. (eds) *Long-Run Economic Relationships*. Oxford, Oxford University Press.

Gastanaga, V. M. and J.B. Nugent, B. Pashamova. 1998. "Host Country Reforms and FDI Inflows: How Much Difference do they Make?" *World Development*, Vol.-26 (7): 1299-1314.

Harris, R. and R. Sollis. 2003. *Applied Time Series Modelling and Forecasting,* West Sussex, Wiley.

Hines, J. R. Jr. 1997. "Altered states : Taxes and the location of foreign direct investment in America." *American Economic Review,* 86(5): 1076 – 1094.

Iyoha, M. A. 2001. "An econometric study of the main determinants of foreign investment in Nigeria." *The Nigerian Economic and Financial Review,* 6(2): December.

Johansen, S. and K. Juselius. 1990. "Maximum Likelihood estimation and inference on cointegration – with applications to the demand for money." *Oxford Bulletin of Economics and Statistics,* 52 (2): 169-210.

Johansen, S. 1988. "Statistical analysis of cointegrating vectors." *Journal of Economic Dynamics and Control,* 12: 231-254.

Ngowi, H. P. 2001. "Can Africa increase its Global share of foreign direct investment (FDI)?" *West Africa Review,* 2(2).

Obadan, M.I. 1982. "Direct Foreign Investment in Nigeria: An Empirical Analysis." *African Studies Review,* XXV (1): March.

Pesaran, H. M. and Y. Shin. 1995. "Autoregressive Distributed Lag Modelling Approach to Cointegration Analysis." *DAE working paper series* 9514. Department of Applied Economics, University of Cambridge.

Pesaran, H. M., Y. Shin, and R. Smith. 1996. "Testing the existence of a long-run relationship." *DAE working paper series* 9622. Department of Applied Economics, University of Cambridge.

Pesaran, H. M. and R. Smith. 1998. "Structural Analysis of Cointegration VARS." *Journal of Economic Surveys,* 12 (5): 471-505.

Pesaran, H. M., Y. Shin, and R. Smith. 2001. "Bounds Testing Approaches to the analysis of level relationships." *Journal of Applied Econometrics*, vol.-16: 289-326.

Phillips, P.C.B. and P. Perron. 1988. "Testing for a Unit in Time Series Regression." *Biometrika*, 75: 335-346.

Quintos, Carmela, E. 1998. "Stability Tests in Error Correction Models." *Journal of Econometrics*, vol-82(2): 289-315.

Toda, H. Y. and Y. Taku. 1995. "Statistical inference in Vector Autoregressions with possibility integrated process." *Journal of Econometrics*, vol.-66 (1-2): 225 - 250.

Tsai, P. 1994. "Determinants of Foreign Direct Investment and its Impact on Economic Growth." *Journal of Economic Development*, 19: 137-163.

UNCTAD. 2007. *World Investment Report*. United Nations, New York.

UNCTAD. 2007. *Handbook of Statistics.* on-line (http://www.unctad.org).

Wheeler, D. and A. Mody. 1992. "International investment location decisions: The case of U.S. firms." *Journal of International Economics,* v33: 57-76.

World Bank. 2008. *World Development Report*. Oxford University Press.