EFFECTIVENESS OF FOREIGN DIRECT INVESTMENT POLICY IN NIGERIA (1986-2005)

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ABSTRACT
The paper dwells on an investigation of the effectiveness of foreign direct investment policy in Nigeria. Employing the ordinary least square regression technique, the null hypothesis of no significant relationship between foreign direct investment policy measures and foreign direct investment was tested. The null hypothesis was rejected and the alternative hypothesis accepted, meaning there is a significant relationship between foreign direct investment policy measures and the inflow of foreign direct investment. The coefficients of the explanatory variables are statistically significant and there is a positive relationship between foreign direct investment and liberalization and capital repatriation.The null hypothesis was tested using f- ratio and the student t- test was used to test the statistical significance of the policy variables at 95. Percent significant level.

Key words: foreign direct investment (FDI) policy, Nigeria

INTRODUCTION:
Output and employment are generated by investment. Gross investment, (i^g) is the sum of net investment, (in) and replacement investment (i^s). The evidence all around in Nigeria is that replacement investment has not been met in many sectors-service sector [roads, power plants and transport (rail line and airway rolling stocks)], in the manufacturing sector (1000 capacity utilization, closed plants, and warehouse turned to workshop centres), agriculture (decline in export of product) and mine (reduced output of columbite, bitumen and even crude oil) (Ukeje, 2003). Many reasons have been adduced to explain this ugly scenario-prominent among them are: inadequate savings and high interest rate in the economy. Obadan and Odusola (2001) argued that "domestic savings in many developing countries were barely sufficient to maintain existing capital stock, and hence could not permit enough investment to sustain economic growth. With regard to interest rate Mankiw (1997) states that "the higher the interest rate, the fewer investment projects are profitable", hence a fall in investment rate.

To ameliorate the problem of inadequate savings, government has adopted several foreign investment policies to attract foreign direct investment, because it is seen as a way of introducing external savings into the domestic economy and help in the economic growth of the country. But the pertinent question to ask is: how effective are these policies in attracting foreign direct investment into the country?. Our study, therefore, seek to examine the effectiveness of foreign direct investment policy in attracting foreign direct investment into Nigeria.

Theoretical frame work/literature Review
The eclectic theory which forms the theoretical framework of this study is attributed to Dunning (1981). The elective theory of foreign direct investment often referred to as the OLI paradigm, attempts to integrate these explanations.
The O,L, and I in the paradigm refer to the three groups of conditions that determine whether a firm, industry or company will be a source or a host of foreign direct investment. These groups have ownership advantages, considerations and internalization gains. According to this theory ownership advantages, locational-specific advantage and internalization gains determine the inflow of foreign direct investment into a country. Location specific advantage must derive from the macroeconomic environment as well as from country endowments. These specific endowments

include national resources, markets, labour, government policies etc. necessary for foreign investment.

According to Central Bank of Nigeria (1997), netflow of foreign investment into a country is considered as an indicator of a macroeconomic stability.

Fernandez- Aria and Martiel (1996), argued that foreign direct investment is more sensitive to domestic factors than the more liquid portfolio flows, which are not so prominent in the capital flow component in Nigeria.

Empirical studies of foreign capital flows to developing countries indicate that changes in output are the most important determinants of private capital inflow. This view is shared by Green and Villain Vera (1991). Incentives such as government policies on tax, infrastructural development etc, can induce the flow of private capital investment. Shaikh (1999), listed factors that serve as strong influences on foreign capital flows which include: abolition or reduction of credit controls, allowance of market forces to determine exchange rate, deregulation of interest rates, allowance of free entry into the banking industry and generally into the financial services industry, increased autonomy of supervising agents, and reduction in direct interference by government and removal of regulatory restrictions to allow the free flow of capital into and out of the country for investment purposes.

Policies that ensure general macro-economic stability, integrate markets and open sectors to private enterprise can help to expand the range of profitable investment (Aremu, 2003). Policies that specifically reduce regulatory barriers facing investors and ensure the repatriation of capital and income are in turn necessary to translate potential for profit into viable investment projects. Many countries have adopted the normal marketing techniques to affect investment.

Preferment and madarassy (1992) outlined the following as some of the determinants of foreign direct investment: the size of the domestic market of the recipient country; the capacity utilizations of existing plants; the level of fiscal deficits; the price level or inflation rate; exchange rate volatility; the general level of interest rates; and macroeconomic policies and institutional factors. According to them where the size of the domestic market is considerably large, there will be opportunity for increased demand to spur rapid investment. Low fiscal deficits, stable prices and exchange rate will provide opportunity for decline in the cost of capital goods, which will spur replacement investment.

Policy measures adopted to attract foreign Direct investment in Nigeria.

In order to attract foreign investors into the country several policy measures have been adopted by the government. The government in 1986 under the structural adjustment programme (SAP) adopted the flotation exchange rate policy. In view of this the Foreign Exchange Monitoring and Miscellaneous Provisions) FEMAMP Act was enacted in 1995. It was enacted to liberalize transactions involving foreign exchange and thereby commands a freer flow of foreign direct investment. Investment incentives (tax holiday, tax-saving, removal of tariff) have also been used as pricing techniques to attract foreign investors in to Nigeria. Apart from the above, other policy measures include the liberalization of the economy (openness) competition policy repatriation of capital and income and other policies that ensure macroeconomic stability. All these policies are geared toward providing profitable opportunities for foreign investors to come and invest in the country's economy.

METHODOLOGY

The data used in this study are annual time series data spanning 1986 through 2005. The variables under consideration are foreign direct investment, exchange rate, liberalization and capital repatriation. Data on these variables were obtained from publications of the Central Bank of Nigeria. A major limitation of this study is that, the data, used is to some extent defective. But

despite this limitation, the study is able to achieve its objective. The econometrics approach was adopted in this study. Our null hypothesis of no significant relationship between foreign direct investment policy measures and the inflow of foreign direct investment was stated and tested using the ordinary least square regression technique. Our computing device was the Statistical Package for Social Sciences (SPSS). The R square (R^2) statistic (coefficient of determination) was used to test the power of the explanatory variables while the t- test and the F- ratio were used to test the significant of the policy measures in relation to foreign direct investment at 95 percent confidence interval.

Model Specification

The model for this study is given below.

$$FDI = a_o + a_1 Lb + a_2 Exch + a_3 CR + U …….. (1) Where$$

The *a priori* expectation sign for the variable (Lb, Exch and CR) is a positive (+) sign. This implies that liberalization (openness), exchange rate and capital repatriation policies help to attract foreign direct investment into the country or that there is a direct relationship between the variables (Lb, Exch and CR) and foreign direct investment (FDI).

In the model:

FDI is foreign direct investment inflow.

Lb is liberalization (Non-oil export and Non oil import)

Exch is exchange rate

CR is capital repatriation

U is random term

a_1, a_2, and a_3, are coefficients of policy variables.

a_0 is the regression constant.

Equation (1) above can be logged because, the log-linear form permits a direct estimation and also improves the validity of the estimate and conclusions based on them (Amadi, 2002).

Therefore the log- linear equation takes the following form

$$In\ FDI = a_o + a_1\ In\ Lb + a_2\ In\ Exch + a_3\ In\ CR + U …… (2)$$

Note volume of non oil export and non oil import are used as proxy to measure liberalization (openness).

The out flow of FDI is used as proxy for capital repatriation.

Data Analysis
Our null hypothesis, of no significant relationship between foreign direct investment policy measures and the inflow of foreign direct investment was tested using the ordinary least square regression method as stated earlier.

The estimated regression equation is stated as follows.
In FDI=-1115.9331-288.373In Exch + 2.980E.02In LB+2.489In CR)
$\quad\quad\quad$ (-0.19) (-2.360) $\quad\quad$ (3.187) $\quad\quad\quad$ (3.200)

F* calculated = 5.330, df = 16
Note:- The figures in parenthesis are t values.

R^2 (R square) = 0.500

From the results of the multiple regression in Appendix (A-E) R^2 (R square) is 0.50. This shows that about 50 percent of the variation in the dependent variable (FDI) is caused by foreign direct investment policy measures, the remaining 50 percent may be attributed to variables not included in the model specified. They may include competitive nature of the environment, legal framework (Intellectual and property protection), and political stability.

The testing of the null hypothesis shows that there is a significant relationship between the foreign direct investment policy measures adopted in Nigeria and the inflow of foreign direct investment. This implies that the null hypothesis is rejected and alternative hypothesis accepted. This is because F calculated is greater than the critical value of F* (3.10). The coefficient of the independent variables was tested for statistical significant at 5 percent significant level. The coefficient of exchange rate, liberalization and capital repatriation was found to be statistically significant (i.e., have direct relationship with FDI).

CONCLUSION

$\quad\quad$ In the study we set out to determine the effectiveness of foreign direct investment policy measures in attracting foreign direct investment using the ordinary least square regression analysis to test the null hypothesis of no significant relationship between foreign direct investment policy measures and inflow of foreign direct investment. From the regression analysis and test of significant results we discovered that there is a positive and significant relationship between inflow of foreign direct investment, and liberalization and capital repatriation. But there is a negative relationship between exchange rate and inflow of foreign direct investment, although its coefficient is statistically significant.

$\quad\quad$ The multiple regression result (Appendix A-E) shows that foreign direct investment policy measures explained about 50 percent of the variation in foreign direct investment. The null hypothesis was rejected, confirming that there is a significant relationship between the policy variables and the inflow of foreign direct investment.

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APPENDIX A

Data series of FDI, Exchange Rates, Liberalization and Capital Repatriation 1986-2005

	Year	Fdi	exch	lb	cr
1	1986	4024.0	2.0206	5621.8	1524.40
2	1987	5110.8	4.0179	17843.6	4430.80
3	1988	6236.7	4.5367	20400.0	4891.10
4	1989	4692.7	7.3916	29143.0	5132.11
5	1990	10450.2	8.0378	42904.4	10914.50
6	1991	5610.2	9.9095	86393.3	3802.20
7	1992	11730.7	17.2984	127817.5	3461.50
8	1993	42624.9	22.0511	129484.6	9630.50
9	1994	7825.5	21.8861	125788.2	3918.30
10	1995	55999.3	21.8861	622397.9	7322.30
11	1996	5672.9	21.8861	423775.4	2941.90
12	1997	10004.0	21.8861	707977.4	4273.00
13	1998	32434.5	21.8861	695634.7	8355.60
14	1999	4035.5	92.6934	670046.8	2256.40
15	2000	16453.6	102.1052	7890.27	13106.60
16	2001	4937.0	111.9433	1149082	1560.00
17	2002	8988.5	120.9702	1458912	781.70
18	2003	13531.2	129.3565	1810782	475.10
19	2004	20064.4	133.5004	1900670	155.70
20	2005	26083.7	131.6619	2184914	202.40

Source: CBN Annual Bulletin 2006

APPENDIX B
          Coefficients [a]

Model	Correlations			Collinearity Statistics	
	Zero-order	Partial	Part	Tolerance	VIF
1 (Constant)					
EXCH	.032	-.508	-.417	.158	6.318
LB	.198	.623	.563	.147	6.807
CR	.375	.625	.566	.766	1.366

a.   Dependent Variable: FDI

Coefficient Correlations [a]

Model		CR	EXCH	LB

1	Correlations	CR	1.000	-.077	.278
		EXCH	-.077	1.000	-.900
		LB	.278	-.900	1.000
	Covariances	CR	.605	-7.327	2.022E-03
		EXCH	-7.327	14933.037	I.028
		LB	2.022E-03	-1.028	8.744E-05

a. Dependent Variable: FDI

Collinearity Diagnostics ᵃ

Model	Dimension	Eigen value	Condition Index	Variance Proportions			
				(Constants)	EXCH	LB	CR
	1	2.937	1.000	.02	.01	.01	.02
2		.905	1.801	.02	.01	.02	.18
	3	.117	5.015	.94	.05	.01	.74
	4	4.076E-02	8.489	.03	.92	.97	.06

a.   Dependent Variable: FDI

Residual Statistics ᵃ

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted value	-2264.057	34099.301	14825.515	10053.8311	20
Residual	-14562.566	26654.324	.000	10056.6796	20
Std. Predicted value	-1.917	1.917	.000	1.000	20
Std. Residual	-1.329	2.432	.000	.918	20

a. Dependent Variable: FDI

APPENDIX C

ANOVA [b]

Model	Sum of squares	df	Mean square	F	Sig.
1 Regression	1.92E+09	3	640170286.11	5.330	.010[a]
Residual	1.92E+09	16	120099955.82		
Total	3.84E+09	19			

a. Predictors: (constant), CR,EXCH,LB
b. Dependent variable: FDI

Coefficient [a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	-1115.933	5827.896		-.191	.851
EXCH	-288.373	122.201	-1.049	-2.360	.031
LB	2.980E-02	.009	1.470	3.187	.006
CR	2.489	.778	.646	3.200	.006

APPENDIX D
Coefficient [a]

Model	95% Confidence Interval for B	
	Lower Bound	Upper Bound
(Constant)	-13470.521	11238.654
EXCH	-547.427	-29.319
LB	.010	.050
CR	.840	4.138

APPENDIX E
Regression

Descriptive Statistics

	Mean	Std. Deviation	N
FDI	14825.515	14220.2786	20
EXCH	50.346250	51.7162245	20
LB	649930.78	701480.2395	20
CR	4456.8055	3693.34276	20

Correlations

		FDI	EXCH	LB	CR
Pearson Correlation	FDI	1.000	.032	.198	.375
	EXCH	.032	1.000	.917	-.412
	LB	.198	.917	1.000	-.479
	CR	.375	-.412	-.479	1.000
Sig. (1-tailed)	FDI	.	.446	.201	.052
	EXCH	.446	.	.000	.035
	LB	.201	.000	.	.016
	CR	.052	.035	.016	.
N	FDI	20	20	20	20
	EXCH	20	20	20	20
	LB	20	20	20	20
	CR	20	20	20	20

Variables Entered/Removed [b]

Model	Variable Entered	Variables Removed	Method
1	CR$_a$ EXCH, LB		Enter

a. All requested variables entered
b. Dependent Variable: FDI

Model Summary [b]

Model	R	R Square	Adjusted R Square	Std. Error the Estimate
1	.707[a]	.500	.406	10959.0125

Model Summary [b]

Model	Change Statistics							
	R Square							

	Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.500	5.330	3	16	.010	1.784

a. Predictors: (Constant), CR, EXCH, LB
b. Dependent Variable: FDI