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FOREIGN DIRECT INVESTMENT AND AGRICULTURAL PERFORMANCEIN NIGERIA

DR. J. I. ONYEMA

Senior lecturer, department of Banking & Finance

Rivers State University

ABSTRACT

This paper examines the effect of Foreign Direct Investment (FDI) in the performance of agriculture in Nigeria.Using 2-stage Least Squares and the first-difference of the variables, the paper discovers that FDI significantly affects agricultural performance in Nigeria.The paper recommends that some socio-cultural barriers to massive land acquisition which characterise large-scale farming be relaxed to encourage more inflow of FDI to the sector.

I. INTRODUCTION

The flow of foreign direct investment (FDI) in Nigeria is all pervasive, flowing into various sectors of the economy as well as into various business endeavours. The Nigerian Enterprises Acts of 1972 which was later revised in 1977 made foreign investment into certain business endeavours illegal. The Nigerian Enterprises Promotion Decree of 1989 removed this barrier. Ekpo, H.A. (1997) lists some benefits of foreign Direct Investment to include:

(i) The provision of managerial knowledge and skills including organizational competence and access to foreign markets.

(ii) The transfer of technology from developed economies.

(iii) The provision of an array of goods and services to residents.

Agricultural output accounts for 17.3 of Nigeria's GDP and engages about 70 percent of the labour force (world Factbook, 2006). Before the advent of petroleum, agriculture was the linchpin of the Nigerian economy, contributing more than 75 per cent of export earnings aside from providing food and employment to the citizens.

Over time, its contributions and dwindled for some reasons bordering on neglect and poor investment. Consequently, agriculture's share to export value fluctuated dramatically. It was 2.9 per cent in 1981-1985 periods, 4.7 per cent in 1986-1990 and rested at 2.4 per cent in the 1996-2000 periods (Manyong, V.M et al (2003).

This paper discusses the relationship between foreign direct investment and agricultural performance in Nigeria. The paper aims at establishing this relationship by examining available time series data for the period 1970-2005.

The paper is organized as follows: following the introduction, section II looks at the performance of the agricultural sector in the face of foreign direct investment. Section III discusses theoretically related issues while section IV presents and discusses the estimated results. Section V concludes the paper.

II. FOREIGN DIRECT INVESTMENT TREND IN AGRICULTURE SINCE 1970

Public and private investment in agriculture in the economy of Nigeria has been erratic on account of the general social and business climate in the country. While public investment has been bedevilled by apathy, mismanagement, corruption and inefficiency, private investment has been plagued by political and economic instability, policy discontinuity/inconsistency and insecurity in some parts of the country.

Foreign direct investment into the agricultural sector has not been quite impressive. In 1970, a total of ₦11.2m foreign direct investments representing 1.1 percent of total inflow went to agriculture. It increased marginally to ₦15.4m in 1971, a percentage increase from 1.1 of the previous year to 1.2. Some fluctuations can be noticed between 1970 and 1975 after which it maintained a poorly steady increase and stagnated at ₦1,209m between 1994 and 2005. Throughout a period of about 36 years under study, the mean percentage of foreign direct investment stood at a miserable 1.6. (See aappendix 2).

Like foreign direct investment into agriculture, agricultural output has also shown a fluctuating trend over time. In 1970, it was 30,548 tonnes, fell to 26,352 in 1971 and further to 19,243 in 1972, only managed to increase to 26,003 in 1974 and maintained a steady decline from 1975 to 1981. Thereafter, it continued its characteristic fluctuation, though with a steady increase from 1986 to 2005. (See appendix 1)

III. THEORETICAL FRAMEWORK AND REVIEW OFLITERATURE

The theories behind foreign direct investment (FDI) can generally be classified as “pull and push” factors (Akinkugbe, 2003). The entire hypothesis or theories of FDI are aptly encapsulated by Dunning’s (1961) eclectic theory.

The pull factors examine the relationship between the lost-country specific conditions and the inflow of FDI. The core of locational advantages in the belief that there are some specific advantages to the investor which makes the return on investment sufficient to warrant the additional risk uncertainty that accompany investment outside the familiar home environment. Such locational advantages or

pull factors include control or proximity to natural resources like mineral deposit, forests and fisheries etc. Since they do not move around the globe, companies must move to them.

Akhter (1993) further outlines the 'pull-factor' to include a number of socio-economic and political factors among which are: availability of natural resources, infrastructure, market size, level of human capital development, distance from major markets, labour cost, openness of the economy to international trade, exchange rate, fiscal policy, political stability, monetary policy, extent of liberalization.

Akinkugbe refers to the combination of ownership advantages and internalization advantage as "push factor". The push factor examines the key factors that could influence or motivate multinational corporations to seek to expand their operations overseas. The factors could be horizontal/market seeking, vertical/conglomerate (Coves, 1991, Moosa, 2002).According to Pigato (2001), apart from political and macroeconomic factors, availability of natural resources and a large and growing market are also deciding factors. The conventional economic variables that induce the inflow of FDI include market size and growth factors (measured by GDP per capita), the per capita trade balance and the hourly wage rate in a given economy.

Some studies on FDI in Nigeria seem to concentrate on factors that determine FDI in Nigeria. Such works include Iyoha, M.A. and Ekanem, O.T. (2002), Ekpo H.A.(1997), Essien, E.A. and Onwioduokit, E.A.(1999), Obadan, M.I (2000), Akanji, O.O.(1999) and Oresotu, F.O.(1999). None so far studied the relationship between FDI and agricultural production in Nigeria. Akanji O.O (1999) for example, argues that a healthy business environment is essential in sustaining increase in FDI in Nigeria. Ekpo, H.A. (1997) observes a negative relationship between a country's credit rating, income per capita, debt-service ratio and FDI while return on investment, inflation and political instability relate positivity with FDI in Nigeria.

This paper veers off from determinants of FDI in Nigeria to the effect of FDI on agricultural production in Nigeria. Again, while studies on FDI in Nigeria have been conducted using ordinary least squares, ours will rely on 2-stage least squares. This is because Granger causality test between FDI and the Nigerian economy exhibits a bi-directional causality. Onyema, J.I. (2009).

The theoretical issues to be examined can be summarized in the equation below.

$LAGRIC= G_0+G_1+LLOAG +a_21NTR+a_3LFDIAG+a_4LRAIN.$

Where

LAGRIG=Log of agricultural production

LLOAG=Log of loan to agriculture

INTR=Interest rate on tending

LFDIAG=Log of foreign direct investment to agriculture

LRAIN=Log of rainfall

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a,>0,a2<0,a3>0, a4>0.

IV. REGRESSION RESULTS

To investigate the effect of foreign direct investment on agriculture in Nigeria, we estimated equation 1.The variables in the model exhibited an evidence of unit root. The variables are differenced to overcome the problem of non-stationarity.

Table2 Parameter estimates of change in agricultural equation

Variable	Regression coefficient	t-value	p-value
Constant	8.789	8.19	0.000
ΔLLOAG	0.222	1.74	0.092
ΔINTR	0.029	1.74	0.093
ΔLFDIAG	0.113	4.914	0.062
ΔLRAIN	0.055	0.345	0.732

Adjusted R^2=0.63F-ratio=75.9 Overall P-Value=0.000 DW = 1.411

The results of the estimated equation are shown in appendix 2and summarised in Table 2 above. The coefficients of the variables are positive and consistent with apriori expectations except interest rate. The coefficient of interest rate is positive showing that agricultural production raises with a rise in interest rate. This runs counter to theoretical postulation. Increase in loan by 1 percent increases agricultural production by 0.22 percent, though it is not statistically significant even though it has the most profound effect on agriculture. Foreign direct investment positively and significantly affects agricultural in the country. This is evident from the t-value. The model is good, explaining about 63 percent of the variations in agriculture while variables not included in the model account for the remaining 37 percent. The entire model is also statistically significant as the F-ratio indicates.

V. CONCLUSION

The paper examined the relationship between FDI and agricultural performance in Nigeria. Time series data were collected from the Central Bank of Nigeria from 1970 to 2005. Detecting the incidence of unit root, the paper used the first difference of the variables to correct the incidence of non-stationarity.

Because of bi-directional relationship between FDI and the Nigerian economy, the study used 2-Stage least squares to determine the effect of FDI in agricultural performance in Nigeria. The result of the regression indicates that FDI relates positively and significantly with agricultural performance.

It is therefore recommended that some socio-cultural barriers to land acquisition for large scale agriculture which characterizes foreign direct investment into the sector be relaxed.

Again, continued efforts should be made to attract FDI into the agricultural sector.

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APPENDIX 1

Table 1: Agricultural output and FDI into Agriculture, 1970-2005

Year	Agric. Output(tonnes)	FDI to Agriculture (N'M)	Percentage Of FDI to Agriculture
1970	30548	11.2	1.1
1971	26352	15.4	1.2
1972	19243	9.4	0.6
1973	21961	7.9	0.4
1974	26003	20.7	1.1
1975	21993	19.2	0.8
1976	18862	21.9	0.9
1977	17828	75	3.0
1978	15977	117.6	4.1
1979	15121	120.8	3.8
1980	15421	120.5	3.3
1981	15704	120.5	3.2
1982	16445	120.5	2.2
1983	14240	127.8	2.1
1984	29552	128.5	2.0
1985	21601	126	1.9
1986	32512	128.2	1.4
1987	37106	117.3	1.2
1988	47015	128.9	1.1
1989	52772	134.8	1.2
1990	55964	334.7	3.2
1991	67581	382.8	3.1
1992	75685	386.4	1.9
1993	78691	1214.9	1.8
1994	81802	1208.5	1.7
1995	84286	1209	1.0

1996	88080	1209	1.0
1997	90817	1209	0.9
1998	93401	1209	0.8
1999	96769	1209	0.8
2000	102646	1209	0.8
2001	882688	1209	0.7
2002	91298	1209	0.7
2003	98568	1209	0.7
2004	104695	1209	0.5
2005	111781	1209	0.5

Source: Central Bank of Nigeria statistical Bulletin, volume 16, December 2005

APPENDIX 2 :Results of the estimated equation

Method of estimation: 2 Stage Least Squares

Dependent variable: ΔLAGRIC

Current sample: 1970 to 2005

Mean of dep. var. = 10.6983 LM het. Test = .476676 [.490]

Std. dev. of dep. var. = .888570 Durbin-Watson = 1.41179 [.004,.145]

Sum of squared residuals = 9.05363 Jarque-Bera test = 70.9601 [.000]

Variance of residuals = .292053 Ramsey's RESET2 = 8.88956 [.006]

Std. error of regression = .540419 F (zero slopes) = 75.9054 [.000]

R-squared = .672379 Schwarz B.I.C. = 35.1942

Adjusted R-squared = .630106 Log likelihood = -26.2354

Variable	Estimated Coefficient	Standard Error	t-statistic	P-value
C	8.78896	1.07289	8.19184	[.000]
ΔLLOAG	.222196	.127886	1.73745	[.092]
ΔINTR	.029453	.016971	1.73552	[.093]
ΔLFDIAG	.113037	.023002	4.91419	[.062]
ΔLRAIN	.055219	.159963	.345198	**********