



ASN 53rd Annual Conference Proceedings (Sub-Theme: Agricultural Socio-Economics and Extension)

Analysis of Growth Trend of Foreign Direct Investment inflow into the Agricultural Sector in Nigeria

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Abstract

This paper analysed the growth trend of foreign direct investment inflow into the agricultural sector in Nigeria. Time series data spanning over the period of 1981 to 2017 were obtained from the database of the Central Bank of Nigeria and National Bureau of Statistics. Data were analysed with descriptive statistics and growth rate model. The result showed that an average volume of ₦3,801,255,416.90, a minimum volume of ₦117,300,000.00 and maximum volume of ₦59,828,435,508.43 FDI inflow into the agricultural sector were recorded over the period of under study. Instantaneous and compound FDI inflow growth rates of 12.14% and 12.91% were obtained. It was concluded that the growth trend of FDI inflow into the Nigerian agricultural sector is appreciable and provides potentials for improved agricultural development in the country.

Introduction

Foreign Direct Investment (FDI) refers to an investment made by a resident of one economy in another economy, and it is of a long-term nature or of "lasting interest." It can also be defined as when a foreign organization has a 10% stake or more in the stock of an indigenous company or organization. It has a "significant degree of influence" on the management of the enterprise (United Nation Committee on Trade and Development (UNCTAD), 2009). FDI has been recognised as one of the most important tools for increasing economic growth of a country. It is an essential vehicle of technology transfer from developed countries to developing countries. The potential advantages by which FDI expresses itself in the host economy are in the forms of facilitating the utilization and exploitation of local raw materials, introducing the adoption of modern techniques of management and marketing and easing the access to new technologies. FDI in Nigeria exist mostly in the form of "Greenfield" that is, establishment of new enterprises and some through existing new ones (Wafure and Nurudeen, 2010, p.26). FDI primarily involves the transfer of financial resources by a foreign firm into the Nigerian economy.

The Nigerian Agricultural Sector has been the mainstay of the economy after oil with a potential of providing employment to about two-thirds of the country's labour market. The sector has rich and diverse agro-ecological conditions capable of supporting a variety of farming enterprise, supplies food and raw material, generates household income and provides jobs for about 60 percent of Nigeria's populace. The sector has contributed immensely to the nation's economic development in the past decades. Despite its contributions and potentials, the sector is still bedevilled with inadequate capital allocation coupled with continued deteriorating budgetary allocation and failure of successive governments to adhere to the 2003 Maputo declaration standard set by African Leaders stipulating a 10 percent annual budgetary allocation to agriculture sector (Oyinboet *al.*, 2013a, p.18). Thus, this has negatively impacted on agricultural output and food security of the nation. This scenario has created a weak public financial support for the agricultural sector, hence the need for the sector to attract alternative funding for its activities. Although, Nigeria is one of the highest destinations of FDI in Africa, however, the level of FDI attracted especially to agriculture is small compared to the resource base and potential need. This paper therefore sought to analyse the trend of FDI inflow into the agricultural sector of the economy and its implication for agricultural development in Nigeria.

"Building a Resilient and Sustainable Economy through Innovative Agriculture in Nigeria" 53th Annual Conference of Agricultural Society of Nigeria. 21st -25th October, 2019. NCRI, Badeggi, Nigeria

Methodology

Study Area: The study was carried out in Nigeria using available data from the national database. Nigeria is bordered by Republic of Chad and Niger to the North, the Republic of Cameroun to the east and the Republic of Benin to the west. It is located between Latitudes 4° to 14°N and Longitudes 3° to 14°E of the equator with a total land area of 923,768km² including 13,000km² of water, a border length of 4,047km and a coastline of 853km (National Bureau of Statistics (NBS), 2007). Nigeria has an estimated population of about 196million (World Population Review (WPR), 2018) with about 350 ethnic groups. Agriculture is one of the mainstays of the country's economy.

Data Description: This study employed time series data on foreign direct investment into the Nigerian agricultural sector spanning over the period of 1981 to 2017. The data were obtained from the database of the Central Bank of Nigeria (CBN) and National Bureau of Statistics (NBS).

Method of Data Analysis: Data were analysed with descriptive statistics and growth rate model.

Model specification: A growth rate model adopted from Oyinboet *al.* (2013b, p.22) was modified and employed to estimate the growth rate trend of foreign direct investment into the Nigerian agricultural sector. The compound interest formula was adopted for developing the model and is specified in equation (1) as:

$$Y_t = Y_0(1 + r)^t \quad (1)$$

Where:

Y_t = Amount of FDI (Naira);

Y_0 = Initial value of FDI(Naira);

r = Compound rate of growth of FDI into the Nigerian agricultural sector over time;

t = Time trend (1981 to 2017).

Taking the natural logarithm of equation (1), equation (2) was derived as:

$$\ln Y_t = \ln Y_0 + t \ln(1 + r) \quad (2)$$

Where:

$a_0 = \ln Y_t$

$b_1 = \ln(1 + r)$

Equation (2) is rewritten as:

$$\ln Y_t = a_0 + b_1 t \quad (3)$$

Adding disturbance term to equation (3), the explicit form of the model employed was derived as:

$$\ln Y_t = a_0 + b_1 t + \mu \quad (4)$$

Where:

Y_t = Amount of FDI (Naira);

t = Time trend (1981 to 2017);

a_0 = constant term;

b_1 = Coefficient of time variable;

μ = Random term.

After the estimation of equation (1), the compound rate of growth was computed as follows:

$$r = (e^{b_1} - 1) \times 100 \quad (5)$$

Where: r = compound rate of growth;

b_1 = estimated coefficient from equation (1).

The explicit form of the growth rate model as shown in eq. (4) was estimated using Stata statistical software.

Results and Discussion

Summary Statistics of FDI Inflow into Agricultural Sector in Nigeria: The result of the summary statistics of foreign direct investment (FDI) into the Nigerian agricultural sector is presented in Table 1. It shows that over the period of 1981 – 2017, the annual average FDI Inflow into Agricultural Sector in Nigeria was estimated to be ₦3,801,255,416.90 with the minimum volume recorded been ₦117,300,000.00 while the highest volume been ₦59,828,435,508.43. The minimum and highest FDI inflow recorded were in 1987 and 2017 respectively.

Growth Trend of FDI Inflow into Agricultural Sector in Nigeria: The result obtained from the estimation of the growth model for FDI inflow into the agricultural sector in Nigeria is presented in Table 2. The result shows that time trend variable was positive and significant in influencing FDI inflow into the sector at $p < 0.01$ probability level. The slope coefficient of 0.1214 in the estimated growth rate model measures the relative change in volume of FDI inflow into the agricultural sector for a given change in the value of time trend. By multiplying the relative change in volume of FDI inflow into agriculture by hundred, the percentage change or the growth rate for an absolute change in time was obtained.

The growth rate of 12.14% obtained as presented in Table 3 implies that over the period of 1981 to 2017, FDI inflow into the agricultural sector in Nigeria increased at the rate of 12.14% per annum. However the growth rate worked out is the instantaneous (at a point in time) rate of growth and not the compound (over period of time) rate of growth. Compound growth rate (r) was estimated from the instantaneous rate of growth to be 12.91%.

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Therefore, the growth trend of FDI inflow into the agricultural sector in Nigeria per annum within the period under study (instantaneous rate of growth) was 12.14% and the rate of growth of over the entire period under study (compound rate of growth) was 12.91% respectively. These growth rates are relatively moderate. Therefore, the on-going trend of FDI inflow into agriculture if sustained offers an opportunity for holistic improvement in the Nigerian agricultural sector development.

Conclusion

Having employed time series data on FDI inflow into the Nigerian agricultural sector over the period of 1981 to 2017, this paper have been able to establish an instantaneous and a compound growth rate of 12.14% and 12.91% respectively. It was therefore concluded that the growth trend of FDI inflow into the Nigerian agricultural sector is appreciable and provides potentials for improved agricultural development in the country. It was recommended that the government and other receiving agencies should prudently appropriate the monies received in form of FDI towards the development of the agricultural sector to improve its contributions to the nation's economy.

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Table 1: Summary statistics of FDI inflow into agriculture in Nigeria

Description	Value(₦)
Mean	3,801,255,416.90
Minimum	117,300,000.00
Maximum	59,828,435,508.43

Table 2: Estimated growth model of FDI inflow in agriculture in Nigeria

Variable	Coefficient	t - value
Constant (a ₀)	-222.0297	-7.51***
Time (b ₁)	0.1214	8.21***

Diagnostic statistics

R-squared	0.6580
F-value	67.33***

*** = $p < 0.01$ level of significance

Table 3: Estimated growth rates of FDI inflow in agriculture in Nigeria

Category	Percentage
Instantaneous growth rate	12.14%
Compound growth rate	12.91%