

THE GROWTH RATE OF FOREIGN DIRECT INVESTMENT INFLOW TO NIGERIAN ECONOMY, 1970-2014.

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ABSTRACT

This study investigated the growth rate of Foreign Direct Investment inflow to Nigerian economy, 1970-2014. The objective was to estimate the growth rate of Foreign Direct Investment inflows to the various sectors of Nigerian economy and ascertain if there is acceleration, deceleration or stagnation in Foreign Direct Investment inflow. Data were collected from Central Bank of Nigeria - Statistical bulletin and online data base, National Bureau of Statistics and World Bank Handbook of Statistics for the period, 1970-2014 and analyzed using ordinary least square as the estimation technique with the help of R-Software. Unit root test and Co-integration test were also carried out to ensure the data are stationary and do not co-integrate. These were done using ADF and Johansen tests. Jaque Bera test was carried out to ensure the goodness of fit of the data analyzed. All the data were found to be stationary, did not co-integrate, and also followed normal distribution. The growth rate showed that agricultural sector received the lowest inflow (₦13,964.68 million) while the manufacturing and processing sector received the highest inflow (₦242,653.6557 million). All the sectors of the economy experienced acceleration in FDI inflow during the period except Oil and Gas that could not be determined though showing a downward trend. The study recommends among others that the government should put in place policies that will bring about the development of all sectors of the economy and not just focus on oil alone which is the major natural resource of the nation as focusing on oil alone can crumble the economy's income during recession.

Key Words; Economy, Foreign Direct Investment, growth rate, inflow.

INTRODUCTION

Foreign Direct Investment (FDI) is an investment that involves injecting foreign funds and technology into an enterprise that operates in a country of origin different from that of the investor. FDI has been explained further as the long term investment reflecting or showing a lasting interest and control by a foreign direct investor or parent enterprise of an enterprise entity resident in an economy other than that of the foreign investor (International Monetary Fund, 2008). In the 1990s and early 2000s, as FDI inflows grew in volume and complexity, three new players appeared on the global stage: They are:

Sovereign Wealth Funds (SWFs), which were government- controlled entities with the power to take significant equity stakes in foreign firms; Private Equity (PE) firms, which resorted increasingly to cross-border acquisitions, and emerging-market multinational enterprises (EMNEs), which ratcheted up their overseas acquisitions and investments.

Most Countries, especially the emerging markets strive to attract FDI because of its potential positive impact to economic development and integration into the world economy. Nigeria has been known to be the largest recipients of FDI inflows in Africa; theoretically, it has failed to unleash its FDI potential largely for self-inflicted reasons. The country has failed to make progress in attracting FDI despite its immense human and natural resources. The FDI environment in Nigeria has improved, at least relative to the situation in the pre deregulated era (1970 - 1985) when there were a lot of regulations and policies on ground. Morisset (2000) concludes that a better business environment tends to compensate for the lack of natural resources and large domestic markets. Although it is still less accommodating, sometimes hostile and inadequate to attract high quality, efficiency- seeking FDI in the country at the moment because of insecurity, inadequate infrastructure, corruption, and inconsistent regulations. All the deficiencies remain the major elements for the country's future prospect of attracting more efficiency-seeking FDI.

Beyond Nigeria as a country, Asiedu (2002) submits that worldwide, FDI is increasing at an extraordinary speed in the 21st century, which begins making Africa different. Also United Nations Conference on Trade and Development, UNCTAD (2007) reports that FDI flows to Africa have been on the increase since 2000.

The recent increase of FDI inflows to Africa during the period 2000-2010, is backed up by positive business environment in the region. This positive business environment is backed up by reforms framework for FDI. Many Africa countries have reformed their economic policies, investment laws and also improving financial system. The natural resources and the markets size still remain the common perception that drives FDI inflows into an economy. This view is also consistent with the UNCTAD (2009) data which shows that three largest recipients of FDI namely South Africa, Nigeria and Angola- all are natural resources rich nations. Nigeria is one of the countries in West

African richly endowed with natural resources mainly oil and gas, mineral deposits, and vegetation. The increasingly significant role of FDI in the growth dynamics of a country has spurred volume of empirical studies on both developed and developing countries. At the economy-wide level, recent empirical work has also generally attempted to find a positive correlation between FDI and economic growth. Taking China as an example, China has some features of Nigeria in terms of market size, natural resources etc. Dee (1998) in his study discovered that FDI has been important in explaining China's Economic growth. Blomstrom, Lipsey and Zejan (1994) at the same time, in their study found out that FDI has a significant positive influence on growth rates but the influence seems to be confirmed to higher-income developing Countries. The objective of this study was to estimate the growth rate of Foreign Direct Investment inflows to the various sectors of Nigerian economy and ascertain if there is acceleration, deceleration or stagnation in Foreign Direct Investment inflow.

METHODOLOGY:

Study Area

Nigeria is a sub-Saharan African country with population of 173.6million people (National Population Commission, 2013). It spans an area of 923,768 square kilometers, and is bordered by the Gulf of Guinea in the south, Cameroon and Chad in the east, Republic of Benin in the west and Niger in the north (Food and Agricultural Organisation, 2012). Its topography ranges from mangrove swampland along the coast to tropical rain forest and savannah to the north (Lawal and Atte, 2006). Noted geographical features in Nigeria include the Adamawa highlands, Mambilla Plateau, Jos Plateau, Obudu Plateau, the River Niger and River Benue. On the world map, Nigeria lies between $9^{\circ} 08' N$ and $8^{\circ} 68' E$.

Agriculture remains the mainstay of its economy. Okuneye (2002) described agriculture as the main source of food for most of Nigeria's population while Ayinde *et al.* (2007) are of the view that it was until oil discovery Nigeria's highest foreign exchange earner.

Its capital is Abuja with Lagos being the country's largest city. Official language is English, major exports are oil, minerals, cocoa and rubber and major imports are manufactured goods, machinery/transport equipment, chemicals, food and live animals (FAO, 2012).

Data Collection

Secondary data were collected for all the variables used and they include inflows of Foreign Direct Investment, Export and import data, GDP, exchange rate and inflation rate. All these data were collected from the Central Bank of Nigeria-Statistical bulletin (various issues) and Central Bank online data base, National Bureau of

Statistics, World Bank handbook of statistics and also Food and Agriculture Organization of the United Nation's website for the period 1970-2014.

Data Analysis

The data collected were analyzed using the ordinary least square (OLS) as the estimation technique with the aid of Microsoft Excel and R Software. The models were estimated using time series data from 1970 – 2014.

Estimation Procedure

The time series properties of data were examined in order to avoid spurious result emanating from the non-stationarity of the data and to analyze the dynamic structure of the relationships. The estimation began with a unit root test to confirm the stationary state of the variables that enter the model, using Augmented Dickey-Fuller (ADF). Ordinary Least Square was then used to estimate the model and lastly co-integration test was carried out using Johansen method of co-integration. Jarque Bera test was also used to test for goodness of fit of the data to see if they followed a normal distribution.

Model Specification

To estimate the growth rate of FDI inflow to the various sectors of Nigerian economy tables, graphs and 5-year moving averages were used.

To ascertain if there is acceleration, deceleration or stagnation in FDI inflow to the various sectors of the economy, the log quadratic trend equation was used which according to Onyenweaku (2004) is;

$$\ln Q1_t = B_0 + B_1t + B_2t^2 + U \dots \dots \dots (1)$$

$$\ln Q2_t = B_0 + B_1t + B_2t^2 + U \dots \dots \dots (2)$$

$$\ln Q3_t = B_0 + B_1t + B_2t^2 + U \dots \dots \dots (3)$$

$$\ln Q4_t = B_0 + B_1t + B_2t^2 + U \dots \dots \dots (4)$$

$$\ln Q5_t = B_0 + B_1t + B_2t^2 + U \dots \dots \dots (5)$$

$$\ln Q6_t = B_0 + B_1t + B_2t^2 + U \dots \dots \dots (6)$$

Where,

Q1 = FDI inflow to Manufacturing and Processing

Q2 = FDI inflow to Agriculture, Forestry and Fishing

Q3 = FDI inflow to Transport and Communication

Q4 = FDI inflow to Building and Construction

Q5 = FDI inflow to Trading and Business services

Q6 = FDI inflow to Oil and Gas

B_0, B_1, B_2 = the regression parameters to be estimated.

All other variables as previously defined.

A positively signed B_2 with significant F ratio depicts acceleration while when negatively signed, with a significant F ratio reflects deceleration. If this value is not significant at all, whether positive or negative B_2 , it reflects stagnation in the inflow of FDI to the various sectors of the economy.

RESULTS AND DISCUSSION

The growth rate of FDI

The growth rate of FDI into the economy in this study is captured using 5-year moving averages. The moving averages are shown in Table 1.

Table 1 Five –year moving averages for the period 1970-2014

Years	Manu. Processing	Agric.Forestry. Fishing	Transport. Comm	Building. Cont	Trading. Business	Oil.Gas
1970-74	377.92	12.92	53.72	34.54	250.5	0
1971-75	434.2	14.52	55.52	54.02	323.66	0
1972-76	468.58	15.82	56.36	75.44	411.18	0
1973-77	538.02	28.94	60.04	92.86	435.74	0
1974-78	708.9	50.88	68.84	128.72	481.3	0
1975-79	885.32	70.9	37.14	174.74	527.14	0
1976-80	1084.86	91.16	45.02	214.06	551.3	0
1977-81	1315.86	110.88	53.88	254.74	579.78	0
1978-82	1559.6	119.98	61.54	314.96	803.4	0
1979-83	1732.54	122.02	65.88	358.88	1153.88	0
1980-84	1873.9	123.56	69.9	387.82	1568.28	0
1981-85	2028.74	124.66	74.64	452.04	1969.22	0
1982-86	2249.64	126.2	78.62	460.06	2366.38	0
1983-87	2489.6	125.56	79.96	469.82	2748.96	0
1984-88	2791.38	125.78	96.62	478.38	2920.72	0
1985-89	3450.8	127.04	112.14	416.9	3095.66	0
1986-90	4262.98	168.78	143.06	536.46	2898.16	0
1987-91	5439.42	219.7	201.62	730.46	2638	0
1988-92	6764.22	273.52	264.8	919.26	2255.2	0
1989-93	8613.84	490.72	317.96	834.96	2001.36	0
1990-94	10344.54	705.46	372.24	1080	1751.44	0
1991-95	14610.5	880.32	399.1	1241.88	2007.5	0

Table 1 (Contd. Five –year moving averages for the period 1970-2014)

Years	Manu. Processing	Agric.Forestry. Fishing	Transport. Comm	Building. Cont	Trading. Business	Oil.Gas
1992-96	18834.88	1045.56	421.58	1320.42	2450.8	0
1993-97	23145.06	1210.08	477.8	1291.06	2879.44	0
1994-98	27468.82	1208.9	530.36	2054.48	4598.64	0
1995-99	31913.26	1209	608.5	2512.26	6334.58	0
1996-00	33846.22	1209	697.6	3000.84	7976.7	0
1997-01	35439.28	1209	791.54	3470.36	9646.22	0
1998-02	37170.56	1209	1004.28	4077.18	11384.54	0
1999-03	39413.66	1209	1444.54	4208.68	12183.9	0
2000-04	52756.4	1209	2136.7	4448.32	14046.92	0
2001-05	72068.58	1209	3085.72	4991.8	17069.68	0
2002-06	107058.5	1209	4552.86	6241.64	22928.28	0
2003-07	211561.1	7420.954	162279.5	20134.14	45415.09	30296.16
2004-08	303232.3	7524.148	308340.5	45258.04	54652.61	158549.3
2005-09	354579.8	9284.874	392198.7	47075.33	58099.03	181420.6
2006-10	498630	11157.44	487827.5	53991.91	60009.02	199310.3
2007-11	568396.3	19774.96	552732.2	61984.5	57362.79	203895
2008-12	565724.4	31378.02	437453.4	59072.21	116577	204953.3
2009-13	543175.9	48522.92	473669.7	42582.39	160459.4	102624.3
2010-14	660024.9	51494.77	588313.9	50864.13	230085.6	121387.4

Source: R Software computer result
(Figures are in millions of naira)

When these values are plotted in a graph, we have Figure 1. The graph shows the growth rate of FDI into the various sectors of the economy.

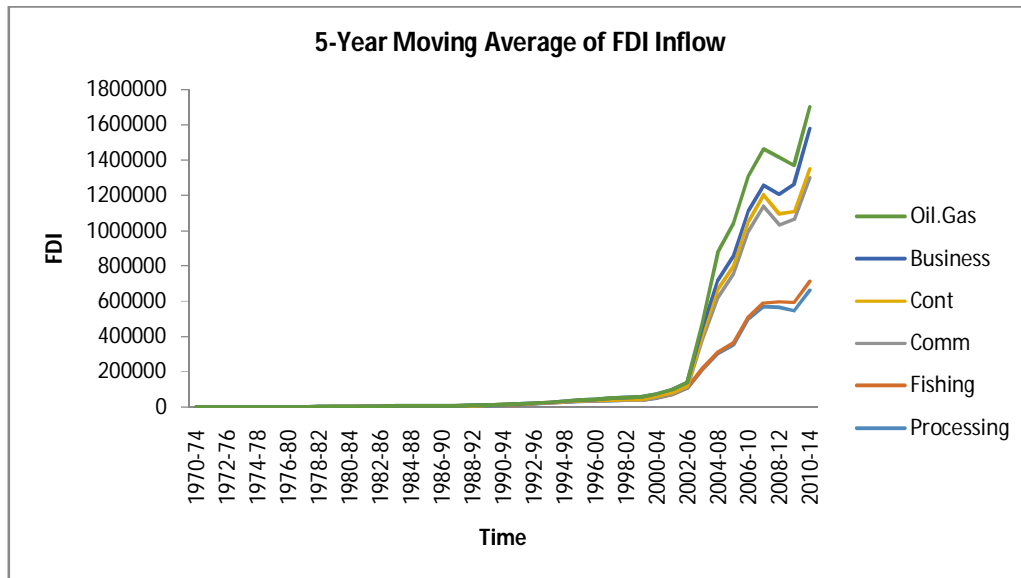


Fig 1 Five-year moving average for FDI inflow to Nigerian economy

All the sectors of the economy showed a steady growth in FDI inflow over the years except agricultural sector that was stagnated between 1999 and 2006, and also oil and gas that exhibited a downward trend after years of spontaneous increase in growth rate. This can be attributed to the fall in world oil price in the past few years which also has affected the quantity of FDI into this very sector.

Acceleration, Deceleration or Stagnation in FDI Inflow to the Various Sectors of Nigerian Economy.

Table 2 shows the result of the quadratic trend equation computed for the inflow of FDI to the various sectors of the economy from 1970-2014.

Table 2 Estimates of quadratic equation of time trend for pre-deregulated, deregulated and all periods under study.

Period	Dependent Variable	B ₀	B ₁	B ₂	R ²	F-ratio
All periods (1970-2014)	Manu.Processing	4.209e+03 (3.228) **	-4.404e+00 (-3.364)**	1.153e-03 (3.508)**	0.9831	1219***
	Agric.Fores.Fish	3.960e+03 (1.299)	-4.143e+00 (-1.354)	1.084e-03 (1.410)	0.9003	189.7***
	Transport.Comm	2.636e+04 (6.908) ***	-2.670e+01 (-6.970) ***	6.763e-03 (7.033) ***	0.9258	262.1***
	Building.Const	2.864e+03 (1.000)	-3.040e+00 (-1.057)	8.059e-04 (1.117)	0.9088	209.2***
	Trading.Business	6.947e+03 (3.048) **	-7.114e+00 (-3.109) **	1.823e-03 (3.174) **	0.9228	251.1***
	Oil.Gas	-	-	-	-	-
Pre-deregulated (1970-1985)	Manu.Processing	-1.252e+04 (-1.452)	1.251e+01 (1.434)	-3.123e-03 (-1.416)	0.9597	154.8***
	Agric.Fores.Fish	-3.938e+04 (-1.622)	3.962e+01 (1.614)	-9.965e-03 (-1.605)	0.8471	36.02***
	Transport.Comm	-2.375e+04 (-0.675)	2.390e+01 (0.671)	-6.009e-03 (-0.668)	0.5012	6.531**
	Building.Const	-6.346e+04 (-8.827) ***	6.395e+01 (8.794)***	-1.611e-02 (-8.761) ***	0.9883	550.2***
	Trading.Business	2.814e+04 (2.112)*	-2.863e+01 (-2.124)*	7.283e-03 (2.137)*	0.9256	80.83***
	Oil.Gas	-	-	-	-	-

Deregulated (1986-2014)	Manu.Processing	6.309e+02 (0.135)	-8.303e-01 (-0.177)	2.601e-04 (0.222)	0.957	289.4***
	Agric.Fores.Fish	1.689e+04 (1.682)	-1.708e+01 (-1.701)	4.319e-03 (1.721)*	0.8141	56.95***
	Transport.Comm	4.662e+04 (3.841***)	-4.697e+01 (-3.869) ***	1.183e-02 (3.899) ***	0.9098	131.1***
	Building.Const	1.014e+04 (1.094)	-1.033e+01 (-1.115)	2.633e-03 (1.136)	0.8388	67.64***
	Trading.Business	2.428e+04 (3.556) ***	-2.445e+01 (-3.581) ***	6.157e-03 (3.608) ***	0.8916	107***
	Oil.Gas	-	-	-	-	-

Source: R Software computer results
(Signif. codes: '***' 0.01 '**' 0.05 '*' 0.1)
Figures in parenthesis are t-values.

To ascertain if acceleration, deceleration or stagnation exists in the inflow of FDI to Nigerian economy, quadratic equation of the trend was used and the B_2 gave us a clue to what the growth process was during the study period. The result showed that B_2 was positive and F ratio significant for the manufacturing and processing sector implying acceleration in the growth process of FDI inflow during the period under study (1970-2014).

Agriculture, fishing and forestry sector also had an accelerated growth in FDI inflow during the period under study as its B_2 is positive and F ratio significant. Transport and communication sector equally experienced an accelerated growth in FDI inflow with a positive B_2 coefficient and significant F ratio. Building and construction too experienced accelerated growth in FDI inflow with a positive B_2 coefficient and significant F ratio. Trading and business services equally experienced acceleration in the growth of FDI inflow to its sector with its B_2 coefficient being positive and F ratio significant.

In essence, the sectors experienced increase in FDI inflow in the periods following deregulation as against the years before deregulation. This can be explained by a number of policy changes that came with the deregulation period. Example, Nigeria Investment and Promotion Commission was put in place to ensure a suitable environment for international investors. Exchange rate was left to the forces of demand and supply to determine rather than the initial government imposed rates. These among several other changes in policy within the deregulation period, gave rise to steady increase in FDI inflow to the various sectors of Nigerian economy.

The data for Oil and Gas sector cannot perform trend estimation because the matrix is singular. This is because data were absent for the sector from 1970 to 2006. Only from 2007 did we have data for FDI inflow to the sector as captured by Central Bank of Nigeria. A graph was used to depict what happened in the sector during the time period in Figure 2.

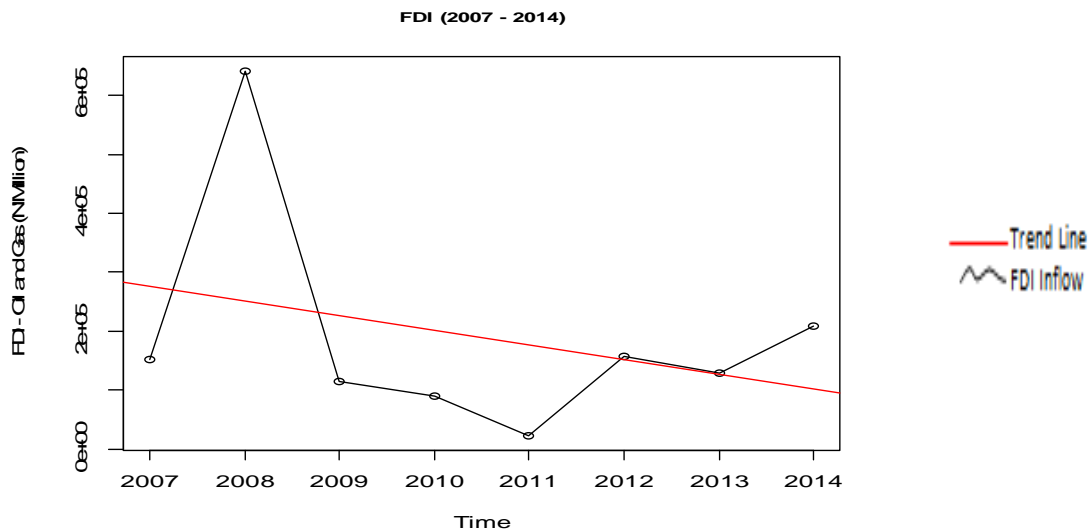


Figure 2. FDI for oil and gas from 2007 – 2014.

Figure 2 shows the FDI for Oil and Gas sector from 2007 – 2014. It shows a relatively steady decrease in growth after 2008 period. This could be attributed to the 2008 global recession. This is observable as the trend line shows a downward trend. The periods after 2009 shows fluctuations in the inflow of FDI to oil and gas and this continued for the rest of the periods of the study. This shows that the fluctuation in the market value of oil equally affects the FDI that comes into the sector at large.

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