Foreign Direct Investment and Economic Development in Nigeria

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ABSTRACT

This study examined the Foreign Direct Investment (FDI) trends and their influence on the Nigerian Economy over the time frame of 1986 to 2018. Secondary data were sourced from the Central Bank of Nigeria statistical bulletin of various issues and CBN annual reports. This study utilized the Error Correction Model Granger Causality and other diagnostic tests in capturing the long-run and short-run dynamics of the variables used in the model. The result revealed the existence of a positive and significant long-run relationship between Foreign direct investment on the human development index proxy for Economic development. Due to the influence of foreign direct investment, the study recommends that the government should foster its appropriation of capital and recurrent expenditure towards improving the productive dominance of the nation, and eliminate room for insecurity and political turmoil.

KEYWORDS:

Foreign Direct Investment. Human Development Index. Nigeria. Capital and Recurrent Expenditure

Introduction

It is crystal clear that no nation is entirely independent, and as such would require exchange of resources with other nations for survival through improvement of the citizen welfare and the drive to economic growth and development which can be achieved through capital flow (i.e. inflow and outflow). Capital inflow on one hand refers to the movement of money for the purpose of investment, trade or business production, including the flow of capital within corporations in the form of investment capital, capital spending on operations and research and development into an economy (Reinhart, Reinhart & Trebesch, 2016). And on the hand other, capital flows became necessary when actual savings exceed desire investment (outflows) or when probable savings are more than actual savings (Olasode, 2015).

Nigeria, like most developing economies has benefited enormously from capital flows.

In the face of resource deficiency in financing long term development, the capital deficient economies like Nigeria have heavily resorted to foreign capital as the primary means to achieve rapid economic growth. However, Nigeria's share in global flows is relatively low when compared to the net private capital flows for developing countries worth US$491.0 billion in 2005 (World Bank, 2006). In the 1980s and capital flows took the form of foreign direct investment (FDI) and foreign portfolio investment (FPI). While portfolio investment has been a notable feature of developed economies, it is becoming a very important component of the balance of payments of many promising economies, such as China, Hong Kong, India, Singapore, Taiwan, Brazil, South Africa etc. (Efobi & Asongu, 2016). Recently, portfolio investment has gained prominence in Nigeria. Before the middle of 1980s, Nigeria did not record any figure on portfolio investment (inflow or outflow) in her balance of payment (BOP) accounts. This was attributable to the non-internationalization of the country's money and capital markets as well as the non-disclosure of information on the portfolio investments of Nigerian investors in foreign capital/money markets (CBN, 2001). On the other hand, FDI dominated Nigeria's capital flows and its benefits are aptly captured by Tyson (2015) in his study. They argued that FDI is the least volatile of capital flows, and more important, can have direct and indirect effects on economic growth. The stability of FDI stems from the fact that direct investors have a longer-term view of the market, thus making them more resistant to herd behavior, and from the sheer difficulty of liquidating assets at short notices.

The point of departure of this study borders on the fact that the relationship between capital flow and economic growth has drawn out various attention and controversies in the International and development economics about its effect. Some scholars give credence to the positive effect of capital flow on economic growth while researchers like Romer (1993), Barro and Sala-i-Martin (1995), and Grossman and Helpman (1991), to mention a few, claim that capital flow leaves developing nation porous to economic anormalies such as inflation etc. Another silver lining to this as noted by Chang, Kaltani and Loayza (2005) is the promotion of efficient allocation of resources through comparative advantage by capital inflow, which fosters the diffusion of technical know-how, structural prowess and technological advancements, and emboldens competition in the local and foreign markets. Although a number of researchers kick against this, a case could be reviewed where Rodrik and Rodríguez (2001) and Krugman (1994) opined distinctly that the influence of capital inflow on economic performance is uncertain. Progressively, these contentious theoretical discoveries also reflect in the empirical literature.

Various econometric research and literatures have attempted to ascertain the association and causal relationship between capital flow and economic growth. In view of the foregoing, this current study

scrutinized the impact of foreign direct investment on economic development in Nigeria and the long-run causal relationship existing among the variables. The specific objective was to determine the impact of Foreign Direct Investment (FDI) on Human Development Index (HDI) in Nigeria.

Literature Review

Conceptual Literature

Foreign direct investment

Foreign direct investment (FDI) is an inflow of investment by a foreign investor to gain a lasting control over the management of an enterprise which is usually at least 10% of voting stock in an enterprise operating in an economy other than that of the investor. It is usually the sum of equity capital. It is the reinvestment of earnings, other long-term capital, and short- term capital as can be seen in the balance of payments (World Bank, 2013). FDI can be measured as stock or flow. The stock of FDI is the accumulation of FDI existing in an economy over a period of time. The flow of FDI is what is generated within a year which could either be inwards, meaning what comes in for the particular year; or outwards, what goes out in that year. Here, we are concerned with the stock of inward FDI.

According to Dunning and Lundan (2008), FDI is usually embarked upon due to different motivations by Multinational Enterprises (MNEs) such as market seeking, resource seeking, knowledge seeking and efficiency seeking. When MNEs embark on FDI for the purpose of getting a larger market, it is referred to as market seeking FDI. Resource seeking FDI is embarked on for the purposes of tapping into the natural resources of the host locations such as oil, gold, iron ore etc. Embarking on FDI for better improvement of skills through research and development, and improved technology is referred to as knowledge seeking. Efficiency seeking is the motivation where MNEs relocate to places where they can maximize their production cost for instance location with cheaper man power.

Foreign Direct Investment and Economic development

Aggregate production is the combination of human capital and physical capital. Physical capital can either be domestic or foreign owned capital in the form of Feign Direct Investment. Positive effects of FDI on economic development can occur directly by increasing the stock of physical capital in the recipient country as foreign capital is accumulated indirectly by encouraging human capital development and strongly boosting technological upgrading. According to De Mello (1997; 1999), FDI leads to growth through two processes:

(i) Capital accumulation – this is expected to lead to growth in the host country through the existence of foreign technology and new inputs in the receiving country's production function; and

(ii) Knowledge transfers – FDI is expected to increase the present stock of knowledge in the host economy via labor training and skill acquisition, and through the introduction of alternative management practices and organizational arrangements.

FDI can improve growth through increases in technology, assist in human capital formation, contribute to international trade integration, employment generation and growth, knowledge spillover and supplementing domestic savings among others (Barrel & Pain, 1997; De Mello, 1999; Gorg &

Greenaway, 2004). All of the above benefits of FDI contribute to higher economic development, which is an important tool for poverty alleviation (OECD, 2002).

On the other hand, the risk of capital flight has constituted a negative effect of FDI on the growth of an economy as observed by Akinlo (2004) on the study of economic development and FDI in Nigeria. Kant (1996) and Stiglitz (2000) also identified capital flight as detrimental to economic development. Capital flight implies that investors exploit the host economy and transfers gains to the home economy thereby leading to reduction of capital in the host economy. Foreign presence may furthermore reduce productivity of domestically owned firms especially in the short-run where there is no technology spillover whereas in the long-run, labour mobility may occur and lead to spillovers (Aitken & Harrison, 1999, p.607), although if FDI is concentrated in a specific sector, it might not have spillover effects. FDI is therefore expected to complement domestic capital rather than replace it.

Human Development Index

The HDI was created to emphasize that people and their capabilities should be the ultimate criteria for assessing the development of a country, not economic growth alone. The HDI can also be used to question national policy choices, asking how two countries with the same level of GNI per capita can end up with different human development outcomes. These contrasts can stimulate debate about government policy priorities.

The health dimension is assessed by life expectancy at birth, the education dimension is measured by mean of years of schooling for adults aged 25 years and more and expected years of schooling for children of school entering age. The standard of living dimension is measured by gross national income per capita.

A fuller picture of a country's level of human development is provided in Figure 1 below.
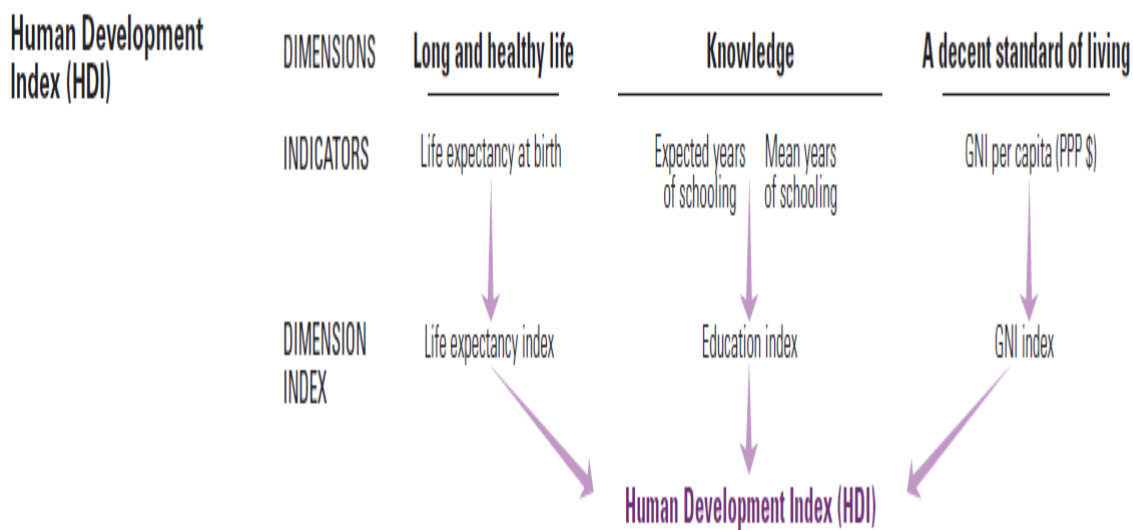

Figure 1: Human Development Index indicators

Source: Petry *et al.,* (2016).

Theoretical Foundations

Endogenous Growth Theory: In this theory, scholars and economists altogether believed that improvements in productivity can be linked directly to a faster pace of innovation and extra

investment in human capital. They stress the need for government and private sector institutions which successfully nurture innovation, and provide the right incentives for individuals and businesses to be inventive. There is also a central role for the accumulation of knowledge as a determinant of growth. Supporters of endogenous growth theory believed that there are positive externalities to be exploited from the development of a high value-added knowledge economy which is able to develop and maintain a competitive advantage in fast-growth industries within the global and maintain a competitive advantage in fast-growth industries within the global economy.

The key area of this growth theory is as follows: The rate of technological progress should not be taken as a constant in growth model-government policies can permanently raise a country's growth rate if they lead to more intense competition in markets and help to stimulate product and process innovation. There are increase returns to scale from new capital investment. The assumption of the law of diminishing returns is questionable. Endogenous growth theorists are strong believers in the potential for economies of scale (or increasing returns to scale) to be experienced in nearly every industry and market. Private sector investment in research and development is a key source of technical progress.

Empirical Review

Olusanya (2013) takes a look at the impact of Foreign Direct Investment inflow and economic growth in a pre and post deregulated Nigerian economy, a Granger causality test was use as the estimated technique between 1970 - 2010. However, the analysis de-aggregates the economy into three period; 1970 to 1986, 1986 to 2010 and 1970 to 2010, to test the causality between foreign direct investment inflow (FDI) and economic growth (GDP). However, the result of the causality test shows that there is causality relationship in the pre-deregulation era that is (1970-1986) from economic growth (GDP) to foreign direct investment inflow (FDI) which means GDP causes FDI, but there is no causality relationship in the post-deregulation era that is (1986-2010) between economic growth (GDP) and foreign direct investment inflow (FDI) which means GDP causes FDI. However, between 1970 to 2010 it shows that is causality relationship between economic growth (GDP) and foreign direct investment inflow (FDI) that is economic growth drive foreign direct investment inflow into the country and vice versa.

Kolawole, (2013) evaluated the impact of official development assistance (ODA) and foreign direct investment (FDI) on real GDP in Nigeria between 1980 and 2011. The study employed the Two-Gap model and some other econometric techniques comprising Augmented Dickey Fuller (ADF) test, Pairwise Granger causality test, Johansen cointegration test and Error Correction Method (ECM). From the empirical results, it was discovered that there is no-causality between any pair of the variables. Findings further revealed a negative relationship between FDI and real growth as ODA has negative impact on real GDP in the Nigeria.

Fambon (2013) capture the impact of foreign capital inflows (which include foreign aid and foreign direct investment) on economic growth in Cameroon. Using the autoregressive distributive lag approach to Co-integration and time-series data for the period 1980–2008, the results of the study indicate that the domestic capital stock and foreign direct investment have positive and significant impacts on economic growth in the short and long terms, while the impact of the labour force on growth was significantly negative in both terms, a result that may be attributable to the fact that Cameroon is a developing country with an unlimited supply of labour whose increase has a detrimental effect on the country's growth.

Obiechina and Ukeje (2013) examined the impact of capital flows (foreign direct investment), exchange rate, export and trade openness on economic growth of Nigeria as well as the causal long-run relationship among the variables, using time series data from 1970 – 2010. The unit root test confirmed the series to be stationary at I (1), while the Johansen Co-integration test suggested the existence of at least one Co-integration vector among the variables. Using Engle-Granger 2-Step procedure, it was observed that all the variables, except the FDI are statistically significant and influence economic growth in the short-run dynamic equilibrium model. Exogeneity test confirmed that FDI has weak exogeneity with economic growth. In addition, the Pairwise Granger causality revealed the existence of uni-directional causality between economic growth and FDI, and uni-directional and bi-directional causality among some of the variables.

Solomon and Eka (2013) investigated the empirical relationship between foreign Direct Investment, Foreign portfolio investment and economic growth in Nigeria for a period covering 1981-2009 using annual data from Central Bank of Nigeria Statistical Bulletin. They used a growth model i.e. the ordinary least square method to ascertain the relationship between the variables and economic growth in Nigeria. The OLS result indicated that the variables have positive but insignificant impact on Nigerian economic growth for the period under study.

One of the latest study carried out on remittances in SSA by Lartey (2013) on 36 countries also showed a positive impact of remittance on economic growth with the use of GMM system estimation. Other positive effects of remittances were noticed on poverty by Adams and Page (2005) on 71 developing countries (of which African countries are less than a third of the sample) over a period of about 20 years with the application of OLS regressions and Instrumental Variables estimates. A positive impact on education and health was found by Acosta et al., (2008) in their study on Latin America, but they observed that it only reaches a few people in the country.

Research Methodology

The study utilized the Ex-post Factor Research Design while the population of study was represented by all Capital inflows transactions inclusive of all internal flows in Nigeria as regards other economies. The Foreign Direct investment was selected for the study against economic development being the criterion variable. The sample of the study covered the period of 1986 to 2018 (33 years) on the employed dimensions of capital inflows which include foreign direct investment, as against Human development index (proxy for economic development). This work would utilized secondary sourced time series data. The employed data reflected the Capital indicators and variables which includes, Foreign Direct investment, Foreign Portfolio Investment, and the Human Development Index (GDP). (i.e. 1986-2018). The employed data were collected from the statistical Bulletin of Central Bank of Nigeria (2018). This study employed the use of E-view 10 analytical tool.

Several measures of foreign capital flows and economic growth have been employed in the literature but for the purpose of this current study, the independent variable is foreign direct investment while the dependent variable is human development index. However, in Appendix A there are five dimensions of foreign capital flows. The choice of HDI is as a result of the fact that it represents a summary measure of the average achievement in key dimensions of human development: a long and healthy life, being knowledgeable and have a decent standard of living. The HDI is the geometric mean of normalized indices for each of the three dimensions (Ndikumana, 2000; Amuedo-Dorantes & Pozo, 2004; Chami et al, 2005; Acosta et al, 2008; Macias & Massa, 2010; Aizenman et al, 2013).

On the other hand, FDI can be measured as stock or flow. FDI is one of the major sources of foreign capital in the selected sub-Saharan African countries. Since we are dealing with long-run relationship of foreign capital, it is appropriate to use the stock of FDI as we are more concerned with the contribution to growth over a time period. Foreign direct investment liability stock obtained from Lane and Milesi-Ferreti data is therefore used here. This FDI is computed as a ratio of GDP. Several studies have used the stock of FDI as well (Tsai, 1994; Balasubramanyam et al., 1996; Prasad et al., 2007). Most notable studies such as (De Mello, 1997; Choe, 2003; Alfaro et al., 2004; Lensink & Morrisey, 2006) however use the net inflow of FDI as percentage of GDP, while FDI inflow as a percentage of GDP obtained from UNCTAD was used by Driffield & Jones (2013). Foreign direct investment is expected to have a positive effect on human development index which is a measure of economic growth.

Model Specification

This study adopts the model of Okoro, Nzotta, and Alajekwu, (2019) with slight modification; The study employed one core channel of international capital inflows which is foreign direct investment, into Nigeria as the explanatory variable and HDI as the dependent variable. The model of the study was hinged on the Harrod-Domar growth model.

From the foregoing, the models to be estimated can be stated as follows:

$$HDI_t \qquad = f(FDI_t,) \text{ ------------------------------- (1)}$$

Where:

HDI $\qquad$ = $\qquad$ Human Development Index

FDI $\qquad$ = $\qquad$ Foreign Direct investment

In statistics, equation 1 is not sufficient in specification due to the absence of the Constant Parameter and error term. Therefore, we introduce the Constant Parameter and error terms as follows;

$$HDI_t = \propto_o + \propto_1 FDI_t + \mu i \text{ ------------- (2)}$$

This model is transformed into a log-linear form as follows;

$$LnHDI = \propto_o + \propto_1 LnFDI + \mu i \text{ -----(3)}$$

Apriori expectation: $\propto_1 > 0$,

FDI as an independent variable is theoretically expected to exhibit a positive relationship with the dependent variable (Human Development Index).

Method of Data Analysis

The following are methods to be utilized in analyzing the study data

Diagnostic Tests

Due to the nature of economic data, this study intends to evaluate the characteristics of employed data utilizing the descriptive statistics.

Analytical Tools for the Analysis

Going in line with researchers like Ayanwale (2007), the research engaged the Parsimonious error correction model which regulates the short-term dynamics to regulate the direction of errors between criterion and predictor variables.

Parsimonious Dynamic Error Correction Model

This seeks to correct the error in the model. Error Correction Models (ECMs) entails a series of longitudinal models which seeks to appraise the adjustment speed at which a criterion variable returns to equilibrium after a change in an Predictor variable

Estimation of ECMs of the form:

$$\Delta Z = \Phi(B)\, \Delta Z_{\tau-1} + \mu + \beta\ et\ 1 + vt$$

(Banerjee et al., 1993; Hamilton, 1994; Johansen 1995)

ECMs are useful for appraising the long and short term influences of one time series on another. This study will utilize vector Error correction model.

Results and Discussion

In further estimating the Economic stimulating effect of Capital Inflows in Nigeria over the period of study (1986 to 2018), this section proceeds to the presentation of data, analysis, as well as interpretation of results in the light of the statistical method which has been adopted for the investigation. The test of relevant research hypothesis is also carried out trying to give answers to the research question.

Presentation of Data

Table 1: The annualized values of employed data (Please, see APPENDIX A).

(Table 1 about here)

Error Correction Model

Table 2: Error Correction Model Output

Dependent Variable: D(HDI)

Method: Least Squares

Date: 07/12/19   Time: 16:54

Sample (adjusted): 1988 2018

Included observations: 30 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.

C	3367.429	400.6583	8.404741	0.0000
D(FDI)	5.346575	1.194113	4.477445	0.0001
D(FPI)	0.011679	0.716901	0.016291	0.9871
D(FDP)	1.080128	2.037482	0.534107	0.5975
D(FAD)	2.317261	1.406453	1.647592	0.1125
D(RMT)	0.002724	0.000926	2.941543	0.0066
ECM(-1)	**-0.900505**	**0.130222**	**-6.915149**	**0.0000**

R-squared	0.731366	Mean dependent var	3623.302
Adjusted R-squared	0.675400	S.D. dependent var	3379.242
S.E. of regression	1925.278	Akaike info criterion	18.14039
Sum squared resid	88960715	Schwarz criterion	18.42062
Log likelihood	-266.1058	Hannan-Quinn criter.	18.23004
F-statistic	13.06815	Durbin-Watson stat	2.005603
Prob(F-statistic)	0.000003		

Source: Extracted from Eviews-11.

The error correction estimate in Table 4 shows that in the long run, the independent variables (foreign capital inflows) jointly account for up to 73.14 percent of variation in the development level i.e. Human Development Index. The error correction estimate (ECM) value of -0.900505 shows that disequilibrium and variations in the long and short run can be adjusted backwards by 90.05% based on the expected negative value of the error correction model coefficient. The f-statistic at the probability level of 0.0000003 shows that the model is statistically fit and the Durbin Watson was seen to be within the relevant range based on its development level of 2.005603 showing a negative serial correlation between employed variables and is within an acceptable level. To know the direction and nature of how changes in one variable affect the other variable, the study proceeds to undertake the Granger causality test.

Granger Causality Test

Table 3: Pairwise Granger Causality Test

Pairwise Granger Causality Tests

Date: 07/12/19   Time: 16:57

Sample: 1986 2018

Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
FDI does not Granger Cause HDI	30	11.1745	0.0003
HDI does not Granger Cause FDI		1.33988	0.2800

Source: *Extracted from Eviews-11*

Using the 0.05 (5%) significance level as the threshold for significance as probability level above 0.05 significant level as seen as unsubstantial and therefore showing no causal tendency and vice versa, the granger Causality tests shows no bidirectional causal relationship between employed capital inflow indicators and Human Development Index (HDI). Unidirectional causality is observed unilaterally amongst employed variables it can be seen to be flowing in the following directions:

From Human Development Index to Foreign Direct investment. This shows that changes in Human Development Index account for changes in the level/quantum of foreign direct investment. i.e. investors are willing to invest only when they notice that the nation shows a viable productive capacity worthy of investments.

Hypothesis Testing

The t-statistics is used to test the short run individual hypothesis stated in the null and alternate forms as follows.

Hypothesis One:

H_{01}: There is no significant relationship between Foreign Direct Investment and Human Development Index in Nigeria.

H_{A1}: There is a significant relationship between Foreign Direct Investment and Human Development Index in Nigeria.

Based on the Error correction Model (Table 2) output, and the presence of a significant long run relationship, and the parsimonious error correction model for Foreign Direct Investment t-statistics shows a coefficient of 4.477445 which is greater than the tabulated value of $\pm 1.98/2$ and at a probability level of 0.0001 which is less than the 0.05 significance level, the study therefore rejects the null hypothesis and accept its alternate form. We therefore concluded that there is a significant relationship between Foreign Direct Investment and Human Development Index in Nigeria.

Implication of Findings

In the long run as observed from the parsimonious error correction model, the study identifies a positive and significant relationship between foreign direct investment (FDI) and Human Development Index (HDI). The implication of the findings is that the economy is directly stimulated by the increasing level of FDI.

Conclusions

Conclusively, it can be ascertained that capital inflow such as foreign direct investment is only partially responsible for the growth of the Nigerian economy. This could be linked to unconducive business environment. Underdeveloped capital market and improper management of foreign funds disbursed into the Nigerian economy. This invariably shows that efforts towards opening the nation to foreign inflows are inconsequential and complacent in nature which gives strong evidence of poor management of accrued capital. In furtherance of this, since FDI employed variable shows great causal relevance, it can be finally estimated that if the right steps are taken, the nation could plunge itself into fostered performance by taking the right capital inflows measures such as foreign direct investment.

Recommendation

- Due to the influence of foreign direct investment, government should foster its appropriation of capital and recurrent expenditure towards improving the productive dominance of the nation, and eliminate room for insecurity and political turmoil.

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APPENDIX A

Table 1: The annualized values of employed data.

Human Development Index (HDI), Gross Domestic Product (GDP), Foreign Direct Investment (FDI), Foreign Portfolio Investment (FPI), Foreign Debt Flow (FDL), Foreign Aid (FAD), and Remittances (RMT) 1986 – 2018.

Year	HDI %	GDP ₦'B	FDI ₦'B	FPI ₦'B	FDP ₦'B	FAD ₦'B	RMT ₦'B
1986	0.3432	15237.99	0.7358	0.1516	41.45	0.12	0.4362
1987	0.3487	15263.93	2.4528	4.3531	100.79	0.27	0.1907
1988	0.3542	16215.37	1.7182	2.6118	133.96	0.54	0.1149
1989	0.3597	17294.68	13.8774	1.6188	240.39	2.54	0.1305
1990	0.3652	19305.63	4.686	0.4352	298.61	2.05	0.0452
1991	0.3707	19199.06	6.9161	0.5949	328.45	2.56	3.1246
1992	0.3762	19620.19	14.4631	36.8518	544.26	4.48	92.5114
1993	0.3817	19927.99	29.6603	0.377	633.14	6.36	10.8479
1994	0.3872	19979.12	22.2292	0.2035	648.81	4.15	10.9524
1995	0.3927	20353.2	75.9406	5.785	716.87	4.62	51.5485
1996	0.398	21177.92	111.2909	12.0552	617.32	4.13	199.3932

1997	0.404	21789.1	110.4527	4.7858	595.93	4.37	227.2554
1998	0.41	22332.87	80.749	0.63752	633.02	4.45	119.2378
1999	0.413	22449.41	92.79247	1.01574	2577.37	14.09	118.9247
2000	0.421	23688.28	115.9522	51.07913	3097.38	17.75	173.1303
2001	0.431	25267.54	132.4337	92.51892	3176.29	18.79	145.7609
2002	0.44	28957.71	225.2248	24.78919	3932.89	36.24	171.3059
2003	0.443	31709.45	258.3886	23.55551	4478.33	40.08	210.6162
2004	0.462	35020.55	248.2246	23.541	4890.27	77.27	365.9136
2005	0.465	37474.95	654.1932	116.035	2695.07	845.98	1899.62
2006	0.475	39995.5	624.5207	360.2915	451.46	1470.74	2149.13
2007	0.479	42922.41	759.3804	332.5478	438.89	246.46	2235.634
2008	0.485	46012.52	971.5438	157.1572	523.25	153.39	2258.678
2009	0.49	49856.1	1273.816	70.93849	590.44	244.01	2710.253
2010	0.484	54612.26	905.7308	556.5851	689.84	308.47	2938.24
2011	0.494	57511.04	1360.308	792.3602	896.85	271.98	3139.423
2012	0.512	59929.89	1113.511	2687.233	1026.90	301.49	3203.293
2013	0.519	63218.72	875.1025	2130.18	1387.33	395.76	3237.475
2014	0.524	67152.79	738.1972	832.392	1631.50	393.06	3265.166
2015	0.527	69023.93	602.0678	498.1322	2111.51	469.98	3809.058
2016	0.53	67931.24	1124.149	476.9987	3478.91	762.78	4743.855
2017	0.532	68490.98	1069.417	2604.328	5787.51	951.65	6573.655
2018	0.53	69810.02	610.381	3834.5	7759.20	1011.487	6755.648

Source: *CBN statistical Bulletin (2018).*

Due to dissimilar unit of measurement of above variables, the study standardized all variables by pitting each capital inflow avenue against productivity. This ensured a uniform ratio on which further analysis were based upon.