

The Influence of Government Fiscal Policy on Foreign Direct Investment in Nigerian Economy

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Abstract: This paper appraises the influence of the government fiscal policy on foreign direct investment (FDI) in the economy of Nigeria pre and post-military rule. To achieve the objectives of this work, time series data spanning from 1981-1999 (military era) and 2000-2018 (post-military era) were employed and analyzed with the aim of assessing the influence of fiscal policy on FDI during these significant political periods in the annals of the country. In order to prevent the presence of false estimation outcomes, the Augmented Dickey Fuller test was employed to assess the stationarity and sequence of integration of the variables. The Ordinary Least Square technique and correlation analysis were deployed to test the long-run association that exists among the variables. The outcomes of the analysis reveal inflation has a significant positive influence on FDI in the military era in Nigeria; government expenditure is positively and significantly associated with FDI for both military and post military era; government domestic debt is adversely and insignificantly associated with FDI for both military and the post military era; foreign exchange rate is positively and significantly associated with FDI in the military and adversely associated with FDI in post-military era. The results further suggest the existence of a positive and insignificant association of government tax revenue with FDI for both military and post-military era.

Keywords: Fiscal policy; FDI, Government expenditure; Inflation; Exchange rate

JEL Classification: E00; E02; E62; E69; E22

1. Introduction

The goals of macroeconomic to achieve price stability, full employment level, the sustainability of economic growth, as well as the external balance payment. This is the policy goal of every advanced and underdeveloped economy given that the macroeconomic components are susceptible to volatility in the economy. With no doubt, these goals cannot be achieved automatically; however, policy guidance is required to foster the accomplishment of these goals and this policy guidance denotes the economic policy's objective. The instruments of fiscal policy are the major tools of attaining the goals of macroeconomic and these instruments are tax and public expenditure. Yosra, Anis and Houria, (2013) acclaimed that a more conducive business environment should be created for multinational companies by any country that seeks to attract the inflows of FDI via the enhancement of economic policies as well as political institutions that encourage FDI.

Fiscal policy has to do with the deliberate attempt of the government to spend more money as well as levy taxes with the intention to influence the variables of macroeconomic in a particular direction. Hence, the aims of fiscal policy are to stabilize the economy; increases in public expenditures and/or a

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decrease in taxes is likely to rescue the economy from recession, However, a decrease in public spending and/or a rise in taxation is likely to retard a boom. It was also indicated by Gul and Naseem (2015) that FDI and domestic capital are also shedding light on favourable dimensions of variables to accelerate economic growth.

However, Ajudua and Devis (2015) asserted that the growth objectives of every economy across the globe are supported by the fiscal policy of the government and foreign direct investment. Ajudua and Devis (2015) posited that fiscal policy is part of the many intervening strategies employed by the government to secure the distribution of equity and compensate for the failed competitive market. Based on this fact, it becomes paramount to investigate fiscal policy and FDI in order to determine the degree to which fiscal policy influences the inflow of FDI in the economy. Notwithstanding as FDI is viewed as a factor that stimulates capital formation, productivity growth, export promotion, technology transfer, and employment generation.

For decades, the Nigerian government had made concerted efforts towards influencing foreign direct investment through several policies put in place. Such policies contain curtailment of inflation, ensuring exchange rates stability and reduction of fiscal deficits among others. It is believed by the government that when these policies are substantially implemented, there would be a solid foundation of growth potentials for private sector establishments and stimulation of FDI inflows to sustain the growth of the economy. Furthermore, it has been contended that the reformations of policy in several African nations have not been appropriate and as a matter of fact, have not really persuaded and encouraged foreign investors to establish investments that are independent of the availability of natural resources as well as domestic market Asiedu (2002).

The main purpose of this work is to examine how far-reaching these efforts by the Nigerian government towards employing fiscal policy has influenced foreign direct investment in the Nigerian economy. To the best of our knowledge, this is one of the first research to examine the impact of fiscal policy on foreign direct investment on two significant political periods in Nigeria, the military and post-military era (democratic rule). The research also contributes to the existing works of literatures on the fiscal policy and FDI nexus as it examined a longer and extended data set.

2. Literature Review

The effect of FDI on the prosperity of nations has motivated a large number of studies due to the significant movement of resources in the form of FDI across the world. Hlavacek and Domanska, (2016) identified some of the benefits that accrues to the country from FDI to include the mobilization of capital for business, technology and know-how transfer, human capital development, promotion of financial sector development and high level of competitiveness. One of such studies in the fiscal policy and foreign direct investment nexus is the IEO-IMF, 2003 research. Findings from the study suggest that the provision of infrastructure acts as a tool to woo potential investors to bring in investment to an emerging economy, fair levels of taxation and consistency in the tax policies are also vital in attracting foreign direct investment. Theoretically, when the government desires to stimulate economic growth it increases spending on both socio-economic and capital projects. Spending on education and health stimulates growth in labour productivity and gross domestic output. (Osinowo, 2015), suggest that government spending on rails, electricity, and telecommunications has the potential to reduce cost of production, and act as an incentive to woo private investors, maximize profit and stimulate growth in the economy.

In their contribution to existing literature on fiscal policy and FDI, Niti (2014) carried out a study in India with the aim of investigating the influence of fiscal policy on the inflows of FDI. The work considers the FDI inflows' determinants with reference to the components of fiscal policy (capital expenditure and tax treaties). A regression model was employed to estimate the panel equation and fixed effects model approach was adopted. With respect to the data analysis, openness to FDI and infrastructure were indicated as significant determinants of FDI while the variables of the fiscal policy adopted were not significant. It was concluded that while a competitive fiscal policy enhances business operations, it may not be considered as a prime factor in investment decisions.

To further emphasize the impact of fiscal policy on FDI, a research study was embarked on in Kenya by Wanjala (2016) to ascertain the influence of fiscal policy factors on the inflows of FDI to Kenya for the period of 2000 to 2014. The factors of fiscal policy considered in this work include government expenditure on infrastructure, BOP (current account deficit) and total external government debt. The secondary data employed were analyzed using the Bivariate Linear Regression technique. The outcomes of the analysis revealed that government expenditure on infrastructure significantly and positively influences the inflows of FDI. The current account deficit on BOP was revealed to have adverse and insignificant association with the inflows of FDI and finally, it was indicated that total external government is adversely and insignificantly associated with the inflows of FDI to Kenya.

In their paper, Norlin and Nurul (2018) examined the association of fiscal and monetary policies with foreign direct investment for the periods 1977 – 2016. The co-integration test was employed to ascertain the existent long run association of fiscal and monetary variables with FDI and a vector error correction model was employed to estimate the existent causal association amidst the observed variables. The study also employed the multiple regressions model to further assess how the fiscal and monetary variables significantly impact on FDI. Findings from the study indicated the existence of a long run link of fiscal and monetary policies with FDI. The study also suggested the existence of a causal association amidst the variables at least in one direction.

In a similar study, Magdalena and Elena (2018) appraised the influence of fiscal and monetary policies on the FDI attraction in Romania using time series data spanning from 2000–2010. In response to empirical literatures and analysis, some dimensions of macroeconomic policy that are short-term in nature were investigated within the context of crisis, because economic recovery and growth facilitated by the FDI inflows. The outcomes of the empirical analysis revealed that FDI inflows are attracted by monetary factors such as inflation and rates of interest while the fiscal factors especially direct taxes appear to be less significant in the short-term, but play an important role in the long-term.

In order to analyse the impact of government fiscal policy and FDI Norashida, Zulkornain, Gul, and Mohammed, (2019) conducted a study in seven countries which include Indonesia, Malaysia, Thailand, Singapore, Philippine, China and India to ascertain the influence of government expenditures on the inflows of FDI in the host economy employing a set of panel data obtained from the study countries between 1982 until 2016. The estimation of Pooled Mean Group was carried out to examine the association between the observed variables adopting capital, market size, infrastructure and macroeconomic stability as control variables. The outcomes of this work revealed that the government expenditure significantly and positively contributes to the inflows of FDI in the long run.

Theoretically, to attain economic stability, the Keynesian theory proposes deliberate government fiscal policy interventions. The use of fiscal policy stabilization tools such as government spendings and taxation is usually the first line macro-economic tool rather than monetary policy (Nkamare, 2016).

The goal of Keynesian theorist towards economic stabilization is to increase spending in an economy, to stimulate employment, income and output aggregate spending is usually employed. The Keynesian model suggest that a positive nexus exist between deficit spending and investment. The implication following the Keynesian theory is that government can use its fiscal policy to control economic instability (Ibi, Ajaude and Nkamare, 2016).

3. Methodology

Study Objective

The study objective is to examine and describe the role of fiscal policy in influencing the flow of foreign direct investment (FDI). The research employed a collection of data made up of end of year observations spanning the period 1981 – 2018 for Nigeria. The study is primarily concerned with the empirical analyses and explanation of the reasons for the nexus between Fiscal policy and FDI based on study context.

Data Collection

The research employed a dataset made up of end of year observations over the period 1981 – 2018 for the purpose of the study. Fiscal policy variables such as government tax and expenditure, total government's debt, rate of inflation, foreign exchange rate and FDI were sourced from the Central Bank of Nigeria, 2019 statistical bulletin.

FDI Model specification

To examine the influence of the various fiscal policy explanatory variables on foreign direct investment (FDI) the functional regression model is stated in equation (1):

$$FDI = f(GEXP, GTX, GDBT, INFL, FXR) \quad (1)$$

Where; FDI = Foreign direct investment; GEXP = Government expenditure, GRV= Government Revenue, GDBT = Total Government Debts, INF = Inflation rate, FXR = Foreign exchange rate.

The functional model in equation (1) is further expressed statistically as:

$$FDI = \beta_0 + \beta_1 GEXP + \beta_2 GRV + \beta_3 GDBT + \mu_{it} \quad (2)$$

Where,

Dependent variable

logFDI = log of foreign direct investment

Independent variables

$\theta GEXP$ = log of government expenditure

θGRV = log of government revenue

$\theta GDBT$ = log of government debt

$\beta_0 \beta_1 \beta_2 \beta_3 \beta_4$ and β_5 are the parameters of the model and μ_{it} is the error term

The model is estimated by employing the Least Square technique to test the long-run association that exists among the variables. In order to prevent the presence of false estimation outcomes, the Augmented Dickey Fuller test was employed to assess the stationarity and sequence of integration of the variables

4. Results and Analysis

The results and analyses of the regression results is divided into two parts. First we analyze the response of FDI in Nigeria during the military era (1982 - 1999) to changes in government revenue and expenditure, inflation, exchange rate and government debt. The last part of the analyses is the response of FDI to changes in the independent variables employed in the study during the post military period in Nigeria (2000 - 2018).

Table 1. Unit Root Test for Stationarity

Variables	ADF Test	Critical Value			Order of Integration
		1% critical value	5% critical value	10%critical value	
FDI	-5.47234	-3.6329	-2.9484	-2.61287	1(1)
GEXP	-7.95517	-3.63941	-2.95113	-2.6143	1(1)
GRV	-5.95031	-3.6329	-2.9484	-2.61287	1(1)
GDBT	-5.65633	-3.64634	-2.95402	-2.61582	1(1)
INFL	-5.51487	-3.6329	-2.9484	-2.61287	1(1)
FXR	-6.40223	-3.63941	-2.95113	-2.6143	1(1)

Source: Authors' Computation from e-views, 2020

Unit root test was conducted since the time series data adopted are basically characterized by stochastic trend which can be removed by differencing. Hence, the ADF test is employed in this work to examine the unit root property of the data series. Results of the Augmented Dicker Fuller (ADF) unit root test in table 1 indicates that all the variables in the specified model were stationary at various levels of significance (1%, 5% and 10%). Thus, foreign direct investment (FDI), Government expenditure (GEXP), Government revenue (GRV), Government total debt (GDBT), Inflation (INFL) and Foreign exchange (FXR) were stationary in their first difference, i.e. integrated at order 1(1). At this order, their ADF test statistics, -5.47234, -7.95517, -5.95031, -5.65633, -5.51487, -6.40223 respectively are greater than their critical value at 1%, 5% and 10% critical ADF statistics in their absolute terms. The test of stationarity was conducted to prevent false regression outcome particularly related to time series econometric modeling.

Table 2. Pairwise Correlations between Variables

Variables	FDI	GEXP	GRV	GDBT
FDI	1.000000			
GEXP	0.107347	1.000000		
GRV	0.268003	0.889028	1.000000	
GDBT	-0.062987	0.455186	0.294210	1.000000

Source: Authors' Computation from e-views, 2020

Where; FDI = Foreign direct investment; GEXP = Government expenditure, GRV= Government Revenue, GDBT = Total Government Debts.

Table 2 reports the correlation coefficients among the variables employed in the multivariate regressions. Investigation of correlation coefficients shows that foreign exchange rate, government tax revenue and government expenditure are positively associated with FDI. This is indicated in their coefficients (0.456713, 0.268003 and 0.107347) respectively. While inflation rate and total government debt were revealed to be negatively associated with FDI at -0.183693 and -0.062987. The outcome of the correlation reveals the absence of multi-collinearity problem in the model adopted.

Table 3. Least Square Regression Model – Military era (1982 - 1999)

Variable	Coefficient	t-Statistic	Probability
C	88.68442	0.935111	0.3741
GEXP	1.258809	2.468018	0.0357
GRV	137.7162	1.365335	0.2053
GDBT	-134.1994	-1.577691	0.1491
INFL	1.258809	0.698481	0.5025
FXR	0.5268874	3.518673	0.0065
$R^2 = 0.628046$	DW = 2.238761	F-Stat = 4.859435	F-prob = 0.015925

Source: Authors' Computation from e-views, 2020

The estimated least square regression result presented in table 3 indicates a satisfactory model of the study with an R^2 of 0.628, which implies that 62.8 percent of the systematic changes in the dependent variables (government expenditure (GEXP), government revenue (GRV), government total debt (GDBT), inflation (INFL) and Foreign exchange (FXR) caused total changes of 62.8 percent of the dependent variable foreign direct investment (FDI). This indicates the independent variables are significant in influencing the dependent variable of interest (FDI). Durbin Watson statistics reports 2.23, this is around 2.0 which indicates the stated model does not suffer from serial autocorrelation problem. The five independent variables (GEXP, GRV, GDBT, INFL, FXR) are significant in analyzing the level of FDI in the military era since the report of the F-statistics of 4.86 with probability of 0.016 is significant at 5%.

The result for government expenditure coefficient suggest that FDI responded positively and significantly to government expenditure i.e. increase in government spending in infrastructure during the military era resulted in an increase in FDI by 125.9%. Government policy to increase spending on capital and recurrent project boosted the inflows of FDI in the country. For government revenue during the military era, the result suggests its coefficient is positively but not statistically significant in influencing FDI, i.e. an increase in government tax revenue during the military period led to increased inflow of FDI. It is assumed that the increase in tax rate which generated revenue for the government during the military era was used to provide public infrastructures and services to improve the business environment for operations, thus continued attraction of FDI. This finding is in line with the result of the study conducted by Ateyah, Torki and George (2015) which found out that tax revenue is positively correlated with FDI.

Meanwhile, government debt coefficient reports a negative and statistically insignificant result. This implies that an increase in government debts during the military era led to a decrease in FDI inflow. This result suggest government borrowing was not properly utilized to attract FDI. The response of investors (FDI) to inflation during the period of the military was positive and statistically significant. The coefficient of inflation in the table 3 indicates that an increase in inflation led to an increased in inflow of FDI.

Meanwhile, the coefficient for foreign exchange suggest that increased foreign exchange transactions led to an increase in FDI, the result is statistically significant. Government spending on foreign goods and services attracted FDI during this period.

Table 4. Least Square Regression Model – Post – Military era (2000 - 2018)

Variable	Coefficient	t-Statistic	Probability
C	52843.55	0.096087	0.9253
GEXP	992945.5	0.727606	0.4835
GRV	1039140	1.338934	0.2102
GDBT	-147347.8	-0.274408	0.7894
INFL	-45837.04	-0.749645	0.4707
FXR	-43.97563	-0.749645	0.4707
$R^2 = 0.249488$	DW = 2.008955	F-Stat = 4.99649	F-prob = 0.015288

Source: Authors' Computation from e-views, 2020

From the outcomes of the regression analysis for the post-military era in table 4 the coefficient of determination of its adjusted R^2 is 0.249488 implying that the performance of the dependent values accounted for 25.91% of the explanatory variables while the balance of 74.89% is caused by error term. This reveals that the military era model has a good fit than the post- military era model. However, the DW- Statistics of 2.00 signifies the nonexistence of the of serial association problem in the model. Furthermore, in view of the F-statistic figure of post - military era of 4.996 and probability of 5% reveals that the model is significant.

Government expenditure coefficient is positive but not statistically significant in its relationship with FDI for the post military era. This signifies that the degree of government spending on capital and recurrent project boost the inflows of FDI in the country. This corroborate with the finding of Oni, Aninkan and Akinsanya (2014) which revealed that both capital and recurrent expenditures influence positively the growth of the economic during the military and post military era and thus stimulates FDI in the economy of Nigeria. The coefficient of government tax revenue from table 4. Reports a positive and insignificant association of government tax revenue with FDI for the post military era. This corroborates the findings of Ateyah et al. (2015) and aligns with the findings of the military era. Government domestic debt coefficient reports a negative and insignificant relationship with FDI for the post military period i.e. an increase in public debt reduced the inflow of FDI into the country Contrarily, this outcome does not support the finding of the study of Obayori, Aborh and Bosco (2018) which reports a positive and insignificant relationship between FDI and government debt. Their research suggests that and increase in public debt will lead to a positive but not high impact increase in FDI.

The coefficient for the inflation variable indicates that inflation has a negative and insignificant link with FDI. This result suggests that a rise in inflation during the post military era led to a reduction in FDI into the country. The result corroborates those conducted by Kunofiwa (2018) which revealed that inflation had a negative significant impact on FDI in Southern Africa. The result is different with the reported result for the military era which suggested that increase in inflations during the military era in Nigeria attracted an increase in FDI. Foreign exchange coefficient in table 4 reports a negative insignificant relationship with FDI. The result suggests that an increase in foreign exchange will lead to a decrease in FDI. Thus, increase in foreign exchange transactions in the post military era did not attract FDI, the result is the contrary for the reported result for the coefficient of foreign exchange for the military period.

Some likely reasons that can be suggested for the difference is that in the military era when Nigeria was experiencing high level of export of both oil and non-oil products, the investments of individuals and firms from abroad increased in Nigeria, thereby leading to appreciation in the exchange rate of naira. However, as a result of the neglect of non-oil products, agricultural products as well as high level of corruption, foreign direct investors were discouraged from investing their capital in Nigeria, thereby resulting in a fall in the value of naira to dollar.

5. Conclusion

The paper examined fiscal policy and its influence in attracting FDI to Nigeria's economy. It analyzed fiscal policy variables such as government expenditure, tax revenues, government debts, inflation and foreign exchange rates spanning two significant periods in Nigeria's history, the military era, 1982-1999 and post military, 2000-2018 era. Findings from the study suggest that increase in government spending in both the military and post-military era in Nigeria resulted to a rise in the rate of foreign investment, increase in government tax revenue for both the military and post military era did not deter but increased foreign direct investment, government domestic debt, both in the military and post military regime has affected negatively the rate of FDI, increased rate of inflation led to a corresponding increase in FDI during the military era but negatively affected inflow of FDI during the post-military era and increase in foreign exchange transactions led to a corresponding increase in FDI but reacted negatively to FDI during the post-military era. In summary, findings from the research indicates strong support that fiscal policies tools of government are determinants in attracting FDI for both the military and post-military periods.

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