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Fiscal Policy and Foreign Direct Investment Inflows in Nigeria: An ECM Approach

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ABSTRACT

This study examined the effect of fiscal policy on Foreign Direct Investment inflows in Nigeria for the period 1999-2023. Foreign direct investment inflows to Nigeria served as the dependent variable while fiscal policy proxied by government tax revenues, government expenditure and government debt served as the independent variables. Time series data for the period studied were sourced from the Central Bank of Nigeria (CBN) Statistical Bulletin as well as from the Nigeria Bureau Statistics (NBS). The Augmented Dickey-Fuller (ADF) unit root test indicated that all the variables were integrated at order 1 i.e. I(1) while the Johansen cointegration test showed that long run equilibrium relationship existed among the variable. Hence, the study employed the Error Correction Model (ECM) technique in data analysis. Empirical findings of the study revealed that government expenditure had a positive and significant effect on foreign direct investment inflows in Nigeria while government tax revenue and government debt exerted negative and insignificant effects on foreign direct investments in Nigeria for the period studied. The study therefore recommended amongst others that there is the need for government to ensure that increased tax revenues as well as its expenditures are channeled towards the productive sectors or the economy such as agriculture, education, construction, manufacturing and infrastructural development. Government debts are also to be judiciously managed and used to finance critical sectors of the economy. All these will positively enhance economic growth and FDI inflows to Nigeria.

1. INTRODUCTION

Foreign Direct Investment (FDI) plays a crucial role in promoting economic growth and development in host countries. Fiscal policy instruments such as tax revenues, government expenditures and government debt can significantly influence foreign direct investment inflows in a country. The measure of fiscal policy is one of the biggest issues associated with this study. In theory, there are three fiscal policy measures (government expenditure, taxation revenue and deficits). Of these three variables, literature did not single out any as the most representative of fiscal policy. For instance, scholars like Trebricka (2015); Thuita (2017) used tax rates as a proxy for fiscal policy others such as Edame and Okoi (2015) had used deficits to account for fiscal policy in their estimations. Kwame (2021) used government expenditure to account for fiscal policy stance. In a situation where government expenditure was considered as a fiscal policy measure, studies such as Osuala and Ebieri (2014) had considered aggregate government expenditure as a single variable, while others, such as, Bello (2015) was of the view that the variable ought to be decomposed into recurrent and capital expenditure.

Taxation (an aspect of fiscal policy) has received considerable attention in literature lately, but there has been very less work on examining its effect on FDI inflows. Also, the second aspect of fiscal policy that relates to expenditure of government had not received much attention in terms of its influence on FDI. However, Olaleye, Riro and Memba (2016) affirmed that while tax incentives (revenue side of the fiscal policy) might be used as instruments to attract FDI, Othman, Yusop, Andaman and Ismail (2018) observed that government expenditure on production of public inputs which might be of productive use to both foreign and

domestic investors could also play a significant role in attracting foreign investors. Countries competing for FDI might want to offer a better tax environment, governments may also tend to make efforts to modernize the infrastructure, increase local productivity-enhancing human capital formation, and improve the overall business environment of the country (Anichebe, 2019). This shows that prior empirical works yielded mixed results. These mixed bags in findings constitute a serious problem, making it necessary to carry out an investigation into the impact of fiscal policy on FDI inflows in Nigeria.

Based on the significance of FDI, countries now make deliberate efforts towards attracting FDI into their respective economies. A potent tool government could use to facilitate inflows of FDI is fiscal policy. For instance, with fiscal policy, government would be able to affect economic variables such as aggregate demand, income, and economic activity as a whole (Peters and Kiabel, 2015). This shows that market mechanism cannot solely stimulate economic activities in a country; and as such there is demand for public policy to correct, guide and supplement market forces towards correcting market imperfections and failures (Osuala and Ebieri, 2014). The centre of fiscal policy is to influence and monitor the economy by adjusting taxes and/or public spending by government. Hence, Oluwafemi, Awojori and Olu (2015) explained that attracting FDI to a large extent is dependent on the ability to provide a favourable government regime such as lower taxation rate, especially to the developing countries that lack well-establish markets when compared to the developed countries. Studies on the subject reveal that fiscal policy had influenced the net return on capital which in turn affected flow of FDI between countries. As a result, most host governments have provided various forms of investment incentives to encourage foreign owned companies to invest in their jurisdiction. These include fiscal incentives, such as tax holidays and lower taxes for foreign investors, financial incentives such as grants and preferential loans to multinational companies and other investors, as well as measures such as market preferences, infrastructure, and knowledge spillover; and sometimes even monopoly rights (Khalifa, 2016).

Based on the above background, this paper specifically examined the impact of government tax revenue, government expenditure and government debt on foreign direct investment inflows in Nigeria for the period 1999-2023.

2. LITERATURE REVIEW

Conceptual Review

Foreign Direct Investments (FDI)

Increases in FDI can take the form of injections of additional or new equity capital, the reinvestment of earnings not distributed as dividends by subsidiaries or associated enterprises and undistributed branch profits, and various intercompany claims, such as the extension of suppliers' credits or loans, all of which represent FDI capital. These transactions cover only an aspect of financing available to direct investment enterprises that can also expand their operations by borrowing in local markets and in international capital markets, with or without the guarantee of direct investors (World Bank, 2002). The intense competition among multinational companies (MNC) to utilize shared resources lead to degradation of natural resources as well as environmental pollution, which have been associated with the issue of climate change (Sindre, 2011). It could also lead to the importation of capital intensive and outdated technology, exploitation of local labour, increase in local wage cost through payment of high wages by multinational corporation (MNC) affiliates, contribution to economic leakage (and deterioration of balance of payments) through preference of imported inputs to local ones. It could also cause adverse effects on competition in the national market, use of transfer prices to escape local taxes and to cheat local partners on returns, encouragement of corruption, pollution of the environment, especially in extractive and heavy industries, Social disruptions associated with accelerated commercialization and creation of tastes for expensive foreign consumer goods and political dependency on FDI source countries and therefore, loss of sovereignty.

According to World Bank (2013), foreign direct investments are defined to mean the net inflows of investments to acquire a lasting management interest (10% or more of voting stock) in a company operating in an economy other than that of the investor. It captures the aggregate of equity capital, reinvestments of earnings, other long-term capital, and short –term capital as shown in the balance of payments (Maingi, 2014).

Government Expenditure

According to Nwaeze (2019), government expenditure refers to the expenses of government to cater for its administration, the society and economy at large. It is a crucial fiscal policy tool that can stimulate economic growth, more especially during recessions (Keynes, 1936). Several studies have revealed that government spending can have a positive multiplier effect on economic growth (proxied by RGDP), with the size varying in accordance to the type of expenditure and prevailing economic conditions (Auerbach and Gorodnichenko, 2012). Excessive government expenditure however, can lead to fiscal unsustainability and crowding out of private investment, which could be inflationary (Buiter, 2010).

Government expenditure has significant economic implication on the economy. It could be used as a tool for countercyclical policy by government as it serves the purpose of stabilizing an economy during downturns. However, it is important to ensure that such spending are targeted to specific sectors and effective too,

Tax Revenue

Tax revenue remains a major source of revenue to government in most economies. While some studies suggest that tax reductions could boost economic growth by way of increasing incentives to work, savings and investments (Mankiwa, 2013). Others argue that tax cuts may lead to reduced government revenue, increased inequality and decreased public investment (Saez and Zuciman, 2019).

Tax revenue has significant implications for economic policy. Government can implement tax reforms in order to reduce inequalities, increase revenue and promote economic growth. These reforms may include measure such as adopting progressive tax systems, improving tax administration and closing tax loopholes. Targeted tax incentives could be used to encourage investment in specific sectors as research and development. Further, government could go into aggressive and effective revenue mobilization in order to reduce much dependency on debts and thus, ensure that tax burden is distributed fairly. These strategies will go a long way in encouraging foreign direct investments in a country.

Government Debt

Public debt can be a very veritable tool for financing public expenditure, however high levels of debt can lead to fiscal unsustainability and increased risk of debt crises (Reinhart and Rogoff, 2010). Some studies have shown that the relationship between government debt and economic growth is non-linear, with high debt levels associated with lower economic growth and thus lower foreign direct investments in a country (Ceccheti, Mohanty and Zampolli, 2011). On the other hand, some studies argue that relationship between debt and economic growth could be more complex as debt can be a useful tool for financing productive public investments which can also encourage foreign direct investments in a country (Delong and Summers, 2012).

Debt's significant economic implications can be seen in the area of debt sustainability. This is to avoid debt crises and maintenance of access to credit markets. Again, effective debt management strategies can be of immense importance in minimizing borrowing costs, risks and maintaining fiscal stability in a country. Debts can also be used to finance investments in production sectors of the economy such as infrastructure, education and research. All these can drive long term economic growth and also attract direct foreign investments.

Theoretical Review

The real option theory and the Eclectic Paradigm theory are explained herein. However, the study is anchored on the Eclectic Paradigm theory.

The Real Option Theory

The real option theory is based on the element of uncertainty in investments which has received much attention due to irreversible investments and policy inconsistency (Schnitzer, 2000). The argument is that since capital goods are often firm specific and have low-resale value, dis-investment is more costly than positive investment. The theory was developed by considering a firm's problem of deciding the optimal time to pay a sunk cost in return for a project of a certain value. Thuita (2017) argued that, for some establishments, the firm could not disinvest should market condition change adversely, and this could increase uncertainties for the potential investors. Policy uncertainty was also considered as an important determinant of private investment. When a policy reform is introduced, it is very unlikely that the private sector would see it as one hundred percent sustainable, and therefore, it may not lead to more investment. Real option approach advocates for consistency in macroeconomics policies such as monetary and fiscal policies in order to eliminate any uncertainties that may be prohibitive to the private investment (Blejer and Khan, 1984).

The Eclectic Paradigm Theory

This theory is also known as the OLI framework and was developed by John Dunning in 1977 and updated in 2000. It is a theoretical framework that explains why firms and governments engage in foreign direct investment (FDI) and how they choose locations for their foreign operations. This theory is based on three basic advantage: ownership advantages (O), location advantages (L) and internalization advantages (I). In a nutshell, firms engage in foreign direct investment when they possess ownership advantages that can be exploited in a foreign market. The location advantages of the host country determine the attractiveness of the market and the profit potentials. In addition, firms will decide to internalize their operations in a foreign market when the benefits of doing so, is greater than the costs associated with it.

Thus, the OLI theory has great implications for both firms and governments. For the government, it postulates that creating a favourable business environment and offering location advantages can attract FDI and promote economic growth. However, for firms, it exposes the importance of developing and leveraging ownership advantages to compete in foreign markets.

Empirical Review

Lenyie (2025) examined the effects of fiscal policy variables on foreign investment in Nigeria. Data were obtained from the Central Bank of Nigeria Statistical Bulletin. Foreign investment is the dependent variable while capital expenditure, recurrent expenditure, oil revenue and non-oil revenue are the independent variables. Autorgressive Distributive Log (ARDL) technique was employed in data analysis. The estimated ARDL model revealed that fiscal policy variables caused 76.3 percent variation in

foreign investments in Nigeria. Findings revealed that both capital and recurrent expenditures had positive effect on foreign investment in Nigeria while both oil and non-oil revenue had negative effect on foreign investment in Nigeria. The paper thus, recommended amongst others that government should ensure that revenue realized is adequately allotted to the productive sector of the economy in order to boost inflow of foreign investment in the country.

In a study by Evans, Kariuki and Wafula (2022) on the assessment of the impact of fiscal policy on foreign direct investment in Kenya, time series secondary data from 1987-2017 were used and the study employed descriptive statistics methodology. Foreign direct investment served as the dependent variable while external public debt, domestic debt, infrastructure and tax served as the explanatory variables. Empirical analysis showed that government expenditure on infrastructure, tax and FDI were positively and significantly related; external debt and FDI were negatively and significantly related while domestic debt and FDI were negatively and significantly related. The study recommended that in order to attract more FDI, Kenyan government should implement trade-balanced actions, reduce corruption; implement income-collecting tax policies and promote international trade in order to ensure competitiveness in Kenyan products.

Kwame (2021) analyzed the influence of tax incentives on foreign direct investment in African economies based on data from 2000–2018. We utilized panel data on forty (40) African countries and an econometric model of four proxies of tax incentives, after controlling other variables, with robust Random Effect as our discussion estimator. The results revealed that FDI responds to lower corporate income tax (CTR). Furthermore, foreign direct investment predominates in African economies with longer tax holidays and withholding tax. However, tax concession is insignificant to the inflows of FDIs in Africa. Summarizing, the results recommended that without proper restructuring of the tax incentives to deal with policy lapses by the governments of Africa, achieving the four main goals, i.e., poverty eradication, sustainable growth and development, African integration in the competitive global economy, and women empowerment, will be hindered.

Ogege and Boloupremo (2020), appraised 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 revealed that inflation had a significant positive influence on FDI in the military era in Nigeria; government expenditure was positively and significantly associated with FDI for both military and post military era; government domestic debt was adversely and insignificantly associated with FDI for both military and the post military era; foreign exchange rate was positively and significantly associated with FDI in the military and adversely associated with FDI in post-military era. The results further suggested the existence of a positive and insignificant association of government tax revenue with FDI for both military and post-military era.

Boly, Coulibaly and Kere (2019), empirically assessed impact of corporate income tax on foreign direct investment inflows in Africa. Using a dynamic spatial Durbin model with fixed effects, the results revealed that cuts in corporate income tax rates increased FDI net inflows in the host country and in the neighboring countries in the short-run and long-run. These findings were to the use of alternative spatial weighting matrices as well as the inclusion of additional controls in the baseline specification. Also, a strategic complementarity in FDI inflows was found between the sampled countries which suggested that an increase in FDI inflows in a host country was likely to boost FDI inflows of its neighbours.

Anichebe (2019), examined the impact of tax revenue on foreign Direct Investment in Nigeria; using time series data from 1981 to 2017. Data for the study was sourced from the Central Bank of Nigeria Statistical Bulletin and the National Bureau of Statistics and analysed using the Ordinary Least Square (OLS) technique. The results showed that tax revenue had long run relationship with Foreign Direct investment in Nigeria. Company income tax and personal income tax had negative impact on foreign direct investment in the long run, while value added tax and custom and excise duty had positive relationship with foreign direct investment in the long run. Based on findings, the following recommendations were made; provision of infrastructures by the government, elimination of multiple taxes as well as simplifying tax laws and adjusting tax rates to encourage investments.

Othman, Yusop, Andaman and Ismail (2018) investigated impact of government expenditure towards foreign direct investment (FDI) inflows in the host country using a panel data set of seven (7) countries spanning from 1982 to 2016. The countries of Malaysia, Indonesia, Singapore, Thailand and Philippine (ASEAN-5), India and China were used for the study. The examination of government spending towards FDI was done by conducting the pooled mean group (PMG) estimation developed by using market size, capital, macroeconomic stability and infrastructure as control variables. The results of the study showed that government spending contributed positively towards FDI inflows in the long run. The study suggested that the spending pattern of government should be directed mainly to productive economic activities due to the fact that higher economic growth stimulated economic activities in the country in the long run and contributed to large foreign direct investments (FDI) inflows to the country.

Mugambi and Murunga (2017), investigated the effect of external debt service on foreign direct investment inflows in Kenya using time series data running from 1980 to 2014. The study adopted gross fixed capital formation, inflation rate, exchange rate

and real GDP as the control variables. The study estimated long run cointegating equation and the findings showed that external debt service had a negative impact on country's foreign direct investments. The study recommended that government should not heavily rely on external borrowing to finance economic growth but should rather cut her programs to avoid higher budget deficit.

Kiburi, Mirie, Okiro and Ruigu (2017), established the relationship between tax burden and FDI inflows from 1990-2015. Taxation components such as tax system, tax types, tax rates, tax base, tax structures affected the amount of tax revenues collected hence the tax burden. Therefore, tax burden was represented by itself and taxation components in this study. The data analysis was done using regression analysis. The research findings demonstrated that world over there was no universal consensus on the relationship between tax burden and FDI inflows. Therefore, tax competition theory, which proposes that there is inverse relationship between tax burden and FDI inflows might not be applicable universally. The research implication is that the study has demonstrated that inverse relationship between tax burden and FDI inflows was not universal. There was need to establish the relationship between tax burden and FDI inflows in any specific country or economic region. Countries that rely on the presumptive inverse relationship between tax burden and FDI inflows to shape their tax policy to attract FDI inflows should rely on empirical research findings undertaken in the country or economic region.

Ayaya (2017) examined the effect of public debt on foreign direct investments inflows in Kenya. The independent variable was public debt as measured by quarterly public debt in natural logarithm form. The control variables were economic growth as measured by quarterly GDP, exchange rates as measured by quarterly exchange rate. FDI inflows in Kenya were the dependent variable and it was measured by FDI inflows in the country on a quarterly basis. Secondary data was collected for a period of 10 years (January 2007 to December 2017) on a quarterly basis. The study employed a descriptive research design and a multiple linear regression model was used to analyze the relationship between the variables. The results of the study produced R-squared value of 0.278 which meant that about 27.8 percent of the variation in FDI inflows in Kenya could be explained by the four selected independent variables while 72.2 percent in the variation was associated with other factors not covered in this research. The study also found that the independent variables had a strong correlation with FDI inflows(R=0.527). ANOVA results showed that the F statistic was significant at 5% level with an F statistic of 3.367. The results further revealed that individually, public debt, economic growth, exchange rates and inflation rates were not significant determiners of FDI inflows in Kenya. This study recommended that there was need for policy makers to regulate public debt levels prevailing in the country bearing in mind that they influenced FDI inflows in the country.

3. METHODOLOGY

Research Design and Methods

This study which is designed to ascertain impact of fiscal policy on FDI inflows in Nigeria adopted the *ex-post facto* research design. This design has been adjudged appropriate as the event under study had already taken place. The researcher had no control over the variables under study simply because they already exist. The time series data used for the study were secondary in nature and were sourced from Central bank of Nigeria Statistical Bulletin (2023) and National Bureau of Statistics annual abstract. For data on a given variable that were collected from more than one source, caution was taken to ensure consistency of such data. The error correction model (ECM) analytical technique was adopted in data analysis from where decisions were taken.

Model Specification

In a paper titled "Fiscal policy and inflow of foreign investments in Nigeria financial market", Lenyie (2025), specified a model as:

$FI = \alpha_0 + \beta_1 CEXP + \beta_2 REXP + \beta_3 OILR + \beta_4 NOILR + ei$ …… eqn1

Where:

FI	=	Foreign Investment
CEXP	=	Capital Expenditure
REXP	=	Recurrent Expenditure
OILR	=	Oil Revenue
NOILR	=	Non-Oil Revenue
β_1 β_2 β_3 β_4	=	Coefficients
ei	=	error term

The above model is modified to suit the objective of the current study as below:

$LOGFDI = \beta_0 + \beta_1 TAXR + \beta_2 GOVE + \beta_3 GDEBT + \mu$ …… eqn 2

Where:

FDI	=	Foreign Direct Investment
TAXR	=	Tax Revenue
GOVE	=	Government Expenditure
GODEBT	=	Government Debt
β_0	=	Constant

$\beta_1\ \beta_2\ \beta_3\ \beta_4$ = Coefficients
μ = Error term
By apriori expectation
$\beta_0 > 0$, $\beta_1 < 0$, $\beta_2 < 0$, $\beta_3 < 0$, and $\beta_4 < 0$
Table 3.1 below shows the variables and their expected signs based on theory intuition (Apriori expectations)

Table 3.1: Apriori Expectation

Variables	Theory Intuition	Expected Sign
Tax Revenue	Higher taxes might deter foreign direct investments where the tax burden is passed on to investors, thus leading to a decrease in FDI	-
Government Expenditure	Increased government expenditure on the critical sectors of the economy such as agriculture, industry, education and infrastructure will attract more FDI	+
Government Debt	Higher government debt might lead to concerns about economic stability and inflation and thus, potentially deter FDI	-

Source: Researcher's Computation, 2025

4. ANALYSIS AND RESULTS

Table 1: Descriptive statistics

Statistics	LOG(FDI)	LOG(TAXR)	LOG(GOVE)	LOG(DEBT)
Mean	2.831965	3.253738	3.507696	3.856302
Maximum	3.494670	4.154619	4.296850	4.545280
Minimum	1.967501	2.351738	2.845749	3.343353
Skewness	-0.721202	-0.104557	-0.114185	0.555350
Kurtosis	2.732575	2.221606	2.086042	2.332716
Probability	0.326001	0.712948	0.629881	0.417096
Observation	25	25	25	25

Source: Author's computation (2025) from E-views 10 software package

Foreign direct investment had a mean value of 2.831965 with a maximum value of 3.494670 and minimum value of 1.967501. It had skewness value of -0.721202 and kurtosis value of 2.732575. Its skewness value indicated that foreign direct investment (FDI) inflow was negatively skewed while the kurtosis value indicated that FDI was platykurtic (i.e. 2.732575 < 3). With platykurtic kurtosis, there is evidence that FDI had less extreme number of values that exceeded the sample mean score of 2.831965 and probability value of 0.326001 indicated that FDI had normal distribution.
Tax revenue had a mean value of 3.253738 with a maximum value of 4.154619 and minimum value of 2.351738. It had skewness value of -0.104557 and kurtosis value of 2.221606. Its skewness value indicated that tax revenue (TAXR) was negatively skewed while the kurtosis value indicated that TAXR was platykurtic (i.e. 2.221606 < 3). With platykurtic kurtosis, there is evidence that TAXR had less extreme number of values that exceeded the sample mean score of 2.221606 and probability value of 0.712948 indicated that TAXR had normal distribution.
Government expenditure had a mean value of 3.507696 with a maximum value of 4.296850 and minimum value of 2.845749. It had skewness value of -0.114185 and kurtosis value of 2.086042. Its skewness value indicated that government expenditure (GOVE) was negatively skewed while the kurtosis value indicated that GOVE was platykurtic (i.e. 2.086042 < 3). With platykurtic kurtosis, there is evidence that GOVE had less extreme number of values that exceeded the sample mean score of 2.086042 and probability value of 0.629881indicated that GOVE had normal distribution.
Government debt had a mean value of 3.856302 with a maximum value of 4.545280 and minimum value of 3.343353. It had skewness value of 0.555350 and kurtosis value of 2.332716. Its skewness value indicated that government debt (DEBT) was positively skewed while the kurtosis value indicated that Debt was platykurtic (i.e. 2.332716 < 3). With platykurtic kurtosis, there is evidence that Debt had less extreme number of values that exceeded the sample mean score of 3.856302 and probability value of 0.417096 indicated that DEBT had normal distribution.

Table 2: ADF unit root test results

Variables	ADF Values		0.05 Critical Values		Order of Integration
	Level	1st Difference	Level	1st Difference	
D(LOGFDI)	-1.639398	-6.991446	-2.991878	-2.998064	I(1)
D(LOGTAXR)	-0.460658	-5.131617	-2.991878	-2.998064	I(1)
D(LOGGOVE)	0.450117	-7.975456	-2.991878	-2.998064	I(1)
D(LOGDEBT)	-1.610967	-4.492067	-2.991878	-2.998064	I(1)

Source: Author's computation (2025) from E-views 10 software package

From the result in table 2, none of the variables was stationary at level as their individual ADF values (in absolute terms) were less than their respective critical values at 5% level. ADF values of FDI, TAXR, GOVE and DEBT which were (1.639398), (0.460658), (0.450117) and (1.610967) in absolute terms were less than the 0.05 critical values. Based on this outcome, there was need to carry out the unit root test at first difference. At first difference, the result above showed that all the variables had ADF values that exceeding their critical values at 5% level of significance. ADF values of FDI, TAXR, GOVE and DEBT which were (6.991446), (5.131617), (7.975456) and (4.492067) in absolute terms were less than their 0.05 critical values. Thus, the variables were integrated of order 1 (i.e. I(1)).

Table 3: Johansen cointegration test result

Hypothesized No. of CE(s)	Trace Statistic	Max-Eigen Statistic	0.05 Critical Value Trace Statistic	0.05 Critical Value Max-Eigen Statistic
None*	69.36903	42.59975	47.85613	27.58434
At most 1	26.76928	19.03254	29.76707	21.13162
At most 2	7.736731	7.311792	15.49471	14.26460
At most 3	0.424940	0.424940	3.841466	3.841466

Source: Author's computation (2025) from E-views 10 software package

Johansen cointegration test was employed to determine the number of cointegrating equations or the existence of long run equilibrium relationship amongst the variables. The test adopted Trace statistic and Max-Eigen statistic to do this. From the Johansen cointegration test result in table 3 above, it could be seen that there was one (1) cointegrating equation given that the only Trace statistic of 69.36903 exceeded (47.85613) at 5% critical level. Similarly, Max-Eigen statistic indicated that there exists one (1) cointegrating equation as its value 42.59975 exceeded its critical value which 27.58434 at 5% critical level. Based on these outcomes, the study concluded that there exists long run equilibrium relationship among the variables.

Table 4: VAR Lag Order Selection Criteria

Lag	AIC	SC	HO
0	-3.724445	-3.477598	-3.662363
1	-8.245825*	-6.764745*	-7.873337*

Source: Author's computation (2025) from E-views 10 software package

Having established that the variables were I(1) process and there was long run equilibrium relationship among the variables, the study employed error correction mechanism (ECM) technique. However, it was important to determine the appropriate lag to be used in carrying out the error correction mechanism (ECM) test. From the result of the selection criteria test it was evident that lag 1 was the appropriate lag given that its information criterion (AIC, SC and HQ) was smaller than that of lag zero.

Table 5: Parsimonious error correction mechanism (ECM) result
Dependent Variable: LOG(FDI)

Variable	Coefficient	Std. Error	t-statistic	Prob. Value
C	0.077326	0.039753	1.945177	0.0675
D(LOGTAXR(-1))	-0.400169	0.320640	-1.248030	0.2280
D(LOGGOVE(-1))	0.961629	0.433554	2.218014	0.0160*
D(LOGDEBT)	-0.254117	0.135503	-1.875357	0.0771**
ECM(-1)	-0.976317	0.218757	-4.463021	0.0001*
R-squared = 0.614007				
Adjusted R-squared = 0.528231				
F-statistic = 7.158250				
Prob. F-statistic = 0.001241				
DW-statistic = 1.983603				

***significant at 5% (0.05) level; **significant at 10% (0.10) level**
Source: Author's computation (2025) from E-views 10 software package

From the study, tax revenue had negative and insignificant effect on foreign direct investment in Nigeria. 1 percent increase in tax revenue led to 0.40 percent decline in foreign direct investment (FDI) inflow in Nigeria. This is because increased tax collection by government deters FDI especially if the tax burden is passed on to the investors. This is also in line with the theoretical

expectation. Probability t-statistic for TAXR (0.2280) exceeded the test significant level (0.05), indicating that tax revenue had insignificant effect on foreign direct investment in Nigeria.

Government expenditure had positive and significant effect on foreign direct investment in Nigeria. 1 percent increase in government expenditure led to 0.96 percent increase in foreign direct investment (FDI) inflow in Nigeria. This is in line with theoretical expectation as increased government expenditure on critical sectors of the economy like agriculture, industry and education will attract more FDI. Probability t-statistic for GOVE (0.0160) was less than the test significant level (0.05) indicating that government expenditure had significant effect on foreign direct investment in Nigeria.

Government debt had negative and insignificant effect on foreign direct investment in Nigeria. 1 percent increase in government debt led to 0.25 percent decrease in foreign direct investment (FDI) inflow in Nigeria. Higher debt burden by government might lead to concern about economic stability and inflation and thus discourage FDI inflows into a country. This is in line with theoretical expectation. Probability t-statistic for DEBT (0.0771) was less than the test significant level (0.10) but it exceeded the test significant level (0.05). Thus, the study concluded that government debt had insignificant effect on foreign direct investment in Nigeria.

Error correction mechanism (-0.976317) appeared with the expected negative sign and was significant at 5 percent level. This meant that speed of adjustment of FDI from short run to long run was about 98 percent. This implied that short run disequilibrium in foreign direct investment inflow in Nigeria is adjusted to long run equilibrium position at the speed of 98 percent. This is a very high speed of adjustment.

Adjusted R-squared (0.528231) indicated that 53 percent of changes in FDI inflow in Nigeria are due to changes in tax revenue, government expenditure and government debt. Probability F-statistic (0.001241) was less than the test significant level (0.05) and this indicated that the model adopted for the study was reliable, appropriate and significant and could be used for sound policymaking. DW-statistic (1.983603) lay within the acceptable threshold since 1.983603 < 4. This indicated that there was no presence of autocorrelation (Iyeli, 2010).

Discussion of Findings

First, the study showed that tax revenue had negative and insignificant effect on foreign direct investment (FDI) inflow in Nigeria. This finding contradicts Ozekhome (2022) and Boly, Coulibaly and Kere (2019) who found that taxation had significant effect on foreign direct investment in Nigeria. However, the finding is in line with the works of Ogege and Boloupremo (2020) and Anichebe (2019) that increased tax revenue could discourage foreign investors. Perhaps, this finding might be attributed to multiple taxation regimes in the country which has continued to serve as a disincentive to foreign investment in Nigeria. This is against the backdrop that businesses exist merely for the purposes of profit making but when the profit of firms is subjected to multiple forms of taxation, the FDI-seeking host country not only losses the firms that operate in it but new ones would not want to come in.

Second, the study found that government expenditure had positive and significant effect on FDI inflow in Nigeria. This finding is in consonance with the works of Boly, Coulibaly and Kere (2019) and Othmam, Yusop, Andaman and Ismail (2018). This finding might be attributed to the increased aggregate demand associated with improved government expenditure. With increased aggregate demand, investment is enhanced. Over the years, Nigerian government's expenditure has been tilted more towards the recurrent side and this has exacerbated demand for goods and services. In this way, more foreign investors (and foreign direct investment) who are desirous of harnessing the benefits of increased aggregate demand (as well as large market created therein) might have been attracted.

Third, the study showed that government debt had negative and insignificant effect on FDI inflow in Nigeria. This finding is in comformity with Ayaya (2017) and Ogege and Boloupremo (2020) that government debt is not a positive and significant determinant of FDI flows. Debt remains detrimental to the growth of all sectors of a national economy including that of Nigeria. Over the years, Nigeria has continued to battle with increasing debt profile (with attendant huge servicing costs) and this has affected the ability of the government to provide the much needed enabling environment required for attracting FDI into the country.

5. CONCLUSION AND RECOMMENDATIONS

Summary of Findings

The paper made the following findings.

1. Tax revenue of government had negative and insignificant effect on foreign direct investment inflows in Nigeria.
2. Government expenditure had a positive and significant effect on FDI inflows in Nigeria.
3. Government debt had a negative and insignificant effect on FDI inflows in Nigeria,

Conclusion

A lot of countries compete for foreign direct investment inflows in order to boost economic growth, create jobs and improve general wellbeing of citizens. Fiscal policy instruments can be used to achieve these goals by attracting FDI. Government

expenditure had a positive and significant effect on FDI inflows in Nigeria while government tax revenues and debt had negative and insignificant effects on FDI inflows. Overall, government tax revenues, government expenditure and government debt explained 53 percent charges in FDI inflows in Nigeria.

Recommendations

Based on the findings of the study, the following recommendations are made in order to attract or boost FDI inflows in Nigeria.

1. There is need for government to ensure that increased tax revenues are used to fund critical infrastructures or services that benefit businesses as this will attract more FDI.
2. Government should continue to channel its expenditures to the productive sectors of the economy such as agriculture, education, manufacturing, construction, etc. This will help improve the business environment and thus attract more FDI inflows to the country.
3. Higher government debts should be judiciously managed and used to finance productive investments in the country. This will definitely have a positive effect on FDI inflows to Nigeria.

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APPENDIX

Annual time series data on foreign direct investments, tax revenue, government expenditure and government debt

YEAR	Foreign direct investments (FDI)₦'billion	Tax revenue (TAXR) ₦'billion	Government expenditures (GOVE) ₦'billion	Government (DEBT) ₦'billion
1999	92.79	224.77	947.69	3372.18
2000	115.95	314.48	701.05	3995.64
2001	132.43	524.10	1018.00	4193.27
2002	225.22	500.99	1018.18	5098.89
2003	258.39	500.82	1225.99	5808.01
2004	248.22	565.70	1504.20	6260.59
2005	654.19	785.10	1919.70	4220.98
2006	624.52	677.54	2038.00	2204.72
2007	759.38	1264.60	2450.90	2608.53
2008	971.54	1336.00	3240.82	2843.56
2009	1273.82	1652.65	3452.99	3818.47
2010	905.73	1907.58	4194.58	5241.66
2011	1360.31	2237.88	4712.06	6519.69
2012	1113.51	2628.78	4605.30	7564.44
2013	875.10	2950.56	5185.32	8506.31
2014	738.20	3275.03	4587.39	9535.53
2015	602.07	3082.41	4988.86	10948.51
2016	1124.15	2922.50	5858.56	14537.12
2017	1069.42	3335.14	6456.70	18377.00
2018	610.38	4005.91	7813.74	20533.64
2019	1614.32	4725.66	9714.65	23295.07
2020	1082.22	4543.56	10231.73	28729.50
2021	1627.09	6397.14	12164.15	35097.79