Corporate Taxes on Foreign Direct Investment in Nigeria
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Abstract
Foreign Direct Investment is a requisite in the development of an economy particularly in emerging markets such as Nigeria which relies mainly on the proceeds from crude oil sales in the international market. A critical factor that influences inflow of foreign direct investment into an economy is the prevailing tax policies in that country. This study therefore examined the effect of corporate taxes on foreign direct investment in Nigeria. Ex post facto research design was adopted as it extracted relevant data from Central Bank of Nigeria Statistical Bulletin and various annual reports of Federal Inland Revenue Service for the period 1985 to 2016, a period of significant deregulation of the economy. The study engaged cointegration regression and unrestricted vector autoregression analysis to estimate the relationship of the variables. The results established that petroleum profit tax and education tax individually has inverse relationship with foreign direct investment while there is direct relationship between company income tax and foreign direct investment in Nigeria. It concluded that jointly, corporate taxes have significant effect on foreign direct investment in Nigeria and recommends that the government should embark on comprehensive tax reform in order to increase the inflow of foreign direct investment.

Key Words: Foreign Direct Investment, Company Income Tax, Education Tax, Nigeria.

JEL Classification Codes: H250, O33, O34

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1.0 INTRODUCTION
Nigeria had experienced dwindling revenue from crude oil occasioned by decline in the international oil prices and reduction in crude oil production due to insurgency in the Niger Delta region. Jones, Ihendinihu, and Nwaiwu (2015) noted that the volatility in international oil prices and disruptions in crude oil production had put the nation’s foreign earnings in jeopardy. This was corroborated by a World Bank report (2016) which stated that mono-product economies particularly those that is dependent on crude oil would remain vulnerable in view of volatility in crude oil prices.

These circumstances have therefore made the need for alternative sources of revenue expedient especially through foreign direct investment. Foreign direct investment is noted to be an important source of private external finance for developing countries including Nigeria. Hanson (2003) posited that foreign direct investment remains a major source of finance in bridging the gap created by shortage of funds from domestic investments. Mallampally and Sauvant (1999) defined foreign direct investment as investments by multinational corporations from foreign countries in other countries with the aim of controlling assets and managing production activities in those countries.

The benefits of foreign direct investment come in the form of adoption of foreign technology by home countries, development of human capital resources and creation of employments. These benefits are capable of generating revenue through corporate taxes but taxation has tremendous effect on foreign direct investment and the economy.

A fundamental factor in attracting foreign direct investment to a country is the existing corporate tax policy. Ekpung and Okoi (2014) observed that high corporate tax is bad for economic growth and discourages foreign direct investment. Investors routinely compare tax burdens in different countries in order to determine the location where to invest.

This study became necessary because of the problem of dependency on crude oil as a major source of revenue. Generally, the study examined the effect of corporate taxes on foreign direct investment in Nigeria and hence hypothesised that the corporate taxes have no significant effect on foreign direct investment in Nigeria. The findings of this study have implication for policy makers, multinational companies and researchers.

2.0 REVIEW OF RELATED LITERATURE
Conceptual framework: Principles of taxation
Taxation is very important in the development of any economy. According to Adam (2001), taxation is the most important source of revenue for modern governments. Aguolu (2004) sees taxation as a compulsory levy by the government through its agencies on the income, consumption and capital of its subjects.

Equity/Equality of Sacrifice is one of the principles of taxation. Adam (2001) stated that the burden imposed by taxation are laid as equally as possible on all classes. The principle of equity means equal proportion of taxation on every income that is; in principle everyone should pay the same proportion of his income as tax.

On the other hand, the principle of taxation demands that the tax payer should know how much tax he has to pay and when it is to be paid.

Objective of taxation
Fundamentally, taxation is to finance government expenditure. Government uses revenue generated from taxes in financing government expenditure (Organisation for Economic Cooperation and Development [OECD], 2014). OECD countries collect on average 34% of their gross domestic product from taxes.
Foreign direct investment

UNCTAD (1999) defined foreign direct investment as an investment involving a long term relationship and reflecting a lasting interest. Foreign direct investment has been defined as the investment of resources in businesses activities outside a firm’s home country. Mallampally & Sauvant (1999), defined foreign direct investment as investments by multinational corporations in foreign countries with the aim of controlling asset and managing production activities in those countries.

Importance of foreign direct investment

Foreign direct investment is very important to developing countries, especially in Nigeria where the revenue being generated from crude oil is dwindling because of fall in crude oil prices. Foreign direct investment is very important because it is another source of revenue for funding capital projects. Furthermore, foreign direct investment helps in creating new jobs as investors build new companies in target country. There is significant economic benefit inherent in foreign direct investment inflows which come in form of higher incomes and wages. In addition, Feldstein (2000) opines that foreign direct investment allows the transfer of technology, multinational companies train operators of technologies used in their companies.

Empirical Review

There are series of empirical studies in the literature on the effect of taxation on foreign direct investment in Nigeria. The findings of various researchers are quite different in most cases.

Baltaci and Sahin (2016) investigated the relationship between foreign capital and tax in 11 Balkan countries. The study made use of annual data for the period 2006-2014 while Dynamic panel data was used. The result of the study revealed that there is a positive relationship between total tax obligations obtained from profit and foreign direct investment.

Tomonori (2012) noted that the size of foreign direct investment in previous years has a significant positive effect on level of investment.

Wolff (2007) examined effect of taxes on foreign direct investment flow on enlarged European Union. The study used sample selection model in its analysis and the result of study showed that statutory tax rate of both source and host country had insignificant effect on total foreign direct investment.

Djankov and Gamser (2009) shows significant effect of the corporate income rate on foreign direct investment.

Agostini and Tulayasathien (2003) using regression model shows a negative relationship between foreign direct investment and corporate tax rate.

3.0 METHODOLOGY

Theoretical Framework and Model Specification

The relationship between corporate taxes and foreign direct investment is anchored on the dependency theory which was propounded by Singer in 1949. He was disturbed that economic growth in the advanced industrialized countries did not lead to growth in the poorer countries. Economic activities in the richer states often led to serious economic problems in the poorer countries. It shows that the lagging behind of developing countries is caused mainly by their over dependence on primary products as exports to developed countries.

In Nigeria primary products are usually exported while we depend on imports from other countries.

Furthermore, we depend so much on the technological know-how of advanced countries rather than advancing our own domestic technology.
Model Specification
Arising from the above framework and leaning on the work of Agostini and Tulayasathien (2003), in their empirical analysis of tax effects on foreign direct investment, we modified the model by including education tax and petroleum profit tax. The functional form of the modified version of the model is presented thus:

\[ \text{FDI} = f(\text{EDT}, \text{CIT}, \text{PPT}) \]  

Equation one is transformed into econometric form as:

\[ \text{FDI}_t = \beta_0 + \beta_1 \text{EDT}_t + \beta_2 \text{CIT}_t + \beta_3 \text{PPT}_t + e_t \]

Where

- EDT = Education tax
- CIT = Corporate income tax
- PPT = Petroleum profit tax
- \( t = \) Time period
- \( e = \) Error term.
- \( \beta_0 = \) Intercept term
- \( \beta_1, \beta_2, \beta_3 = \) Slope coefficients
- a-priori expectation

It is expected that corporate taxes will have a significant effect on foreign direct investment, in line with the work of Djankov and Gamsar (2009).

Research Design
Ex-post facto design was chosen for this research because the researchers made use of data which are already in existence. The researchers made use of secondary data that was derived from Central Bank of Nigeria Statistical Bulletin and Annual report of Federal Inland Revenue Service. The variables extracted were foreign direct investment, petroleum profit tax, company income tax and education tax.

Method of Data Analysis
The study made use of co-integration and unrestricted vector autoregression analysis to determine the effect of corporate taxes on foreign direct investment because of the order of integration of the unit root test.

4.0 Estimation Results and Discussion of Findings

Unit Root Test
The study conducted unit root test by adopting the augmented Dickey-Fuller method to ascertain whether the time series data collected are stationary. Dickey-Fuller unit root test controls a higher order serial relationship by adding lagged values of the dependent variable. The researchers logged the variables before computing the test because of the high absolute values of some of the variables. Specifically, education tax revenue has lower values than other variables. The results of the unit root test are shown on Table 1.

Table 1: Augmented Dickey-Fuller Unit Root Test

<table>
<thead>
<tr>
<th>Variable</th>
<th>t-statistic</th>
<th>Probability</th>
<th>order of Integration</th>
</tr>
</thead>
<tbody>
<tr>
<td>LogFDI</td>
<td>-8.0837</td>
<td>0.0000</td>
<td>1 (1)</td>
</tr>
<tr>
<td>LogCIT</td>
<td>-5.4856</td>
<td>0.0001</td>
<td>1 (1)</td>
</tr>
<tr>
<td>LogEDT</td>
<td>-6.9338</td>
<td>0.0000</td>
<td>1 (1)</td>
</tr>
<tr>
<td>LogPPT</td>
<td>-6.3238</td>
<td>0.0000</td>
<td>1 (1)</td>
</tr>
</tbody>
</table>

Source: Computed by researcher using Eviews version 9 with data extracted from CBN statistical bulletin

The above result indicates that the logged values of company income tax revenue, education tax revenue, petroleum profit tax revenue and foreign direct investment have high negative t statistic value with probabilities that are highly significant at 5% level of significance. They are all integrated at first difference and therefore co-integrated.
4.2. Effect of corporate taxes on foreign direct investment

The study adopted co-integration regression and vector autoregression techniques of data estimation based on the order of integration. The lag length was estimated using Akaike and Schwarz selection criteria which indicated lag length of 1. The result is shown as appendix 1.

**Table 2:** Fully Modified Least Squares Regression of Foreign Direct Investment and Corporate Taxes

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOGPPT</td>
<td>0.075023</td>
<td>0.285307</td>
<td>0.262955</td>
<td>0.7956</td>
</tr>
<tr>
<td>LOGCIT</td>
<td>1.260046</td>
<td>0.511184</td>
<td>2.464954</td>
<td>0.0240</td>
</tr>
<tr>
<td>LOGEDT</td>
<td>-0.624727</td>
<td>0.462288</td>
<td>-1.351380</td>
<td>0.1933</td>
</tr>
<tr>
<td>C</td>
<td>0.357998</td>
<td>0.745236</td>
<td>0.480381</td>
<td>0.6367</td>
</tr>
</tbody>
</table>

R-squared: 0.826289
Mean dependent var: 2.562153
Adjusted R-squared: 0.797337
S.D. dependent var: 0.442367
Sum squared resid: 0.713858
Long-run variance: 0.050735

Source: Computed by researcher using Eviews version 9 with data extracted from CBN statistical bulletin

**Table 3: Wald Test**

<table>
<thead>
<tr>
<th>Test Statistic</th>
<th>Value</th>
<th>df</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>F-statistic</td>
<td>335.3979</td>
<td>(3, 18)</td>
<td>0.0000</td>
</tr>
<tr>
<td>Chi-square</td>
<td>1006.194</td>
<td>3</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

Null Hypothesis: C(1)=0, C(2)=1, C(3)=2

Null Hypothesis Summary:

<table>
<thead>
<tr>
<th>Normalized Restriction (= 0)</th>
<th>Value</th>
<th>Std. Err.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C(1)</td>
<td>0.075023</td>
<td>0.285307</td>
</tr>
<tr>
<td>-1 + C(2)</td>
<td>0.260046</td>
<td>0.511184</td>
</tr>
<tr>
<td>-2 + C(3)</td>
<td>-2.624727</td>
<td>0.462288</td>
</tr>
</tbody>
</table>

Restrictions are linear in coefficients.

Source: Computed by researcher using Eviews version 9 with data extracted from CBN statistical bulletin
The study conducted co-integration regression adopting the fully modified least squares and Wald test to ascertain the long run relationship between foreign direct investment and the joint corporate taxes. The result of the Wald test indicates rejection of the null hypothesis at 5% level of significance and established co-integrating relationship in the model hence the existence of long run relationship between foreign direct investment and corporate taxes in Nigeria. The distribution of the residuals as shown on Table 4 indicates that the error term are normally distributed based on the Jarque Bera probability of 71.2%.

Table 5: VAR of Foreign Direct Investment and Corporate Taxes

<table>
<thead>
<tr>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C(1)</td>
<td>0.569279</td>
<td>0.226949</td>
<td>2.508402</td>
</tr>
<tr>
<td>C(2)</td>
<td>0.184654</td>
<td>0.254304</td>
<td>0.726113</td>
</tr>
<tr>
<td>C(3)</td>
<td>0.254547</td>
<td>0.538549</td>
<td>0.472653</td>
</tr>
<tr>
<td>C(4)</td>
<td>-0.080638</td>
<td>0.212855</td>
<td>-0.378840</td>
</tr>
<tr>
<td>C(5)</td>
<td>0.585801</td>
<td>0.385063</td>
<td>1.521310</td>
</tr>
<tr>
<td>C(6)</td>
<td>-0.438097</td>
<td>0.317268</td>
<td>-1.380842</td>
</tr>
</tbody>
</table>

R-squared 0.919366 Mean dependent var 2.509292
Adjusted R-squared 0.895650 S.D. dependent var 0.501061
S.E. of regression 0.161859 Akaike info criterion -0.584730
Sum squared resid 0.445369 Schwarz criterion -0.288514
The vector autoregression result indicates that foreign direct investment is affected by lag values of itself and significant at lag length 1. It further reveals that petroleum profit tax and education tax individually has negative insignificant effect on foreign direct investment in Nigeria. This finding is in line with an earlier work carried out by Agostini and Tulayasathien (2003). However, company income tax has positive insignificant effect on foreign direct investment.

From the result, the adjusted R squared indicates 89.6% of the total variation in foreign direct investment is as a result of variations in corporate taxes in Nigeria within the period covered in the study. This implies that there is goodness of fit and the model is well specified.

The study further conducted the Breusch-Godfrey serial correlation test to determine whether there is serial correlation amongst the independent variables used as shown on Table 6. It provided evidence using F statistic probability of 84.9% and chi square probability of 77.9%, that there is no serial correlation. Table 7 indicates the heteroscedasticity test to examine whether the variances of the error term changes and it showed that the variances of the random variables are consistent or that there is no heteroscedasticity.

### Table 6: Breusch-Godfrey Serial Correlation LM Test

<table>
<thead>
<tr>
<th>Breusch-Godfrey Serial Correlation LM Test:</th>
</tr>
</thead>
<tbody>
<tr>
<td>F-statistic</td>
</tr>
<tr>
<td>Obs*R-squared</td>
</tr>
</tbody>
</table>

**Test Equation:**

Dependent Variable: RESID  
Method: Least Squares  
Date: 09/14/19  
Time: 08:09  
Sample: 1994 2016  
Included observations: 23  
Presample missing value lagged residuals set to zero.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C(1)</td>
<td>-0.212458</td>
<td>0.668910</td>
<td>-0.317618</td>
<td>0.7552</td>
</tr>
<tr>
<td>C(2)</td>
<td>0.263077</td>
<td>0.569231</td>
<td>0.462163</td>
<td>0.6506</td>
</tr>
<tr>
<td>C(3)</td>
<td>0.096241</td>
<td>0.597112</td>
<td>0.161178</td>
<td>0.8741</td>
</tr>
<tr>
<td>C(4)</td>
<td>-0.010915</td>
<td>0.237947</td>
<td>-0.045873</td>
<td>0.9640</td>
</tr>
<tr>
<td>C(5)</td>
<td>-0.104889</td>
<td>0.492051</td>
<td>-0.213167</td>
<td>0.8341</td>
</tr>
<tr>
<td>C(6)</td>
<td>0.046258</td>
<td>0.345967</td>
<td>0.133707</td>
<td>0.8954</td>
</tr>
<tr>
<td>RESID(-1)</td>
<td>0.240678</td>
<td>0.721062</td>
<td>0.333782</td>
<td>0.7432</td>
</tr>
<tr>
<td>RESID(-2)</td>
<td>-0.214436</td>
<td>0.408806</td>
<td>-0.524542</td>
<td>0.6076</td>
</tr>
</tbody>
</table>

R-squared 0.021671  Mean dependent var -2.52E-14  
Adjusted R-squared -0.434883  S.D. dependent var 0.142282
To test the hypothesis that corporate taxes have no significant effect on foreign direct investment in Nigeria.

\[ H_0: \beta_1 = \beta_2 = \beta_3 = 0 \] i.e. all slope coefficients are simultaneously zero.

\[ H_1: \beta_1 \neq \beta_2 \neq \beta_3 \neq 0 \] i.e., not all slope coefficients are simultaneously zero.

The probability of the F statistic coefficient has probability value of 0% and sufficiently below 5% level of significance. We therefore reject the null hypothesis and conclude that corporate taxes have significant effect on foreign direct investment in Nigeria.

**Discussion on Findings**

The results established that corporate taxes have significant effect on foreign direct investments in Nigeria. The parameters on the result revealed some economic
implications. It was ascertained that petroleum profit tax and education taxes have inverse relationship with foreign direct investment. This suggests that an increase in petroleum profit tax and education tax rates would impede the flow foreign direct investment while a reduction in the rates would increase inflows. The result is consistent with theory. However, the reason may be due to the different tax rate structure applied on petroleum profit tax and the complexities in oil exploration operations in Nigeria while education tax of 2% is viewed as an additional tax on profits of companies and therefore capable of reducing return on investment.

Company income tax is directly related with foreign direct investment but not significant. The result is contrary to a priori expectation. The reason for this direct relationship between company income tax and foreign direct investment could be occasioned by expectations from foreign investors on comparative low labour rates in Nigeria and high turnover due to market opportunities in view of the vast population that would translate into high bottom line. Collectively, the result confirms earlier works done by Agostini and Tulayasathien (2003) and Abdioglu et al. (2016).

5. CONCLUSION AND RECOMMENDATIONS

CONCLUSION
The study investigated the effect of corporate taxes on foreign direct investment in Nigeria covering the period 1985 to 2016. It used ex post facto research design consequent upon the use of time series data. Data were extracted from Central Bank of Nigeria statistical bulletin and various Federal Inland Revenue Service reports. Petroleum profit tax revenue, company income tax revenue and education tax revenue were used as the independent variables while foreign direct investment was used as the dependent variable. The study therefore used the co-integration and unrestricted auto-regression analysis to estimate relationship of the variables. The study established that corporate taxes significantly affect foreign direct investment in Nigeria. The study has implications for various stakeholders such as the government, investors and researchers.

5.2 RECOMMENDATIONS
Consequent upon the findings of this study, the following recommendations were articulated.

1. Government should ensure that there is effective monitoring on the petroleum sector so as to enhance its revenue. The different tax rates on petroleum profit tax should be reviewed to attract foreign investors.
2. Policy makers on corporate tax laws should articulate ways to provide incentives to attract foreign direct investments. Revenues derived from taxes should be used to create critical infrastructure specifically in the energy sector for investors to have reduction in overhead costs.
3. Government should increase the rate of education tax by 2% and invest the difference in human capital development to meet the manpower requirements of companies.

References


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International Economics, 52 (2):209-234


Appendix 1

VAR Lag Order Selection Criteria
Endogenous variables: LOGFDI
Exogenous variables: C LOGEDT LOGCIT LOGPPT
Date: 09/14/19 Time: 07:22
Sample: 1985 2016
Included observations: 23

<table>
<thead>
<tr>
<th>Lag</th>
<th>LogL</th>
<th>LR</th>
<th>FPE</th>
<th>AIC</th>
<th>SC</th>
<th>HQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>6.343992</td>
<td>NA</td>
<td>0.047924</td>
<td>-0.203825</td>
<td>-0.006348</td>
<td>-0.154160</td>
</tr>
<tr>
<td>1</td>
<td>12.37315</td>
<td>9.436945*</td>
<td>0.031056*</td>
<td>-0.641144*</td>
<td>-0.394297*</td>
<td>-0.579062*</td>
</tr>
<tr>
<td>2</td>
<td>12.72440</td>
<td>0.519229</td>
<td>0.033032</td>
<td>-0.584730</td>
<td>-0.288514</td>
<td>-0.510233</td>
</tr>
<tr>
<td>3</td>
<td>12.72698</td>
<td>0.003591</td>
<td>0.036299</td>
<td>-0.497998</td>
<td>-0.152413</td>
<td>-0.411084</td>
</tr>
</tbody>
</table>
Vector Autoregression Estimates
Date: 09/14/19   Time: 08:05
Sample (adjusted): 1994 2016
Included observations: 23 after

Adjustments
Standard errors in ( ) & t-statistics in [ ]

<table>
<thead>
<tr>
<th></th>
<th>LOGFDI</th>
<th>LOGFDI(-1)</th>
<th>(0.22695)</th>
<th>[ 2.50840]</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>LOGFDI(-2)</td>
<td>0.184654</td>
<td>(0.25430)</td>
<td>[ 0.72611]</td>
</tr>
<tr>
<td></td>
<td>C</td>
<td>0.254547</td>
<td>(0.53855)</td>
<td>[ 0.47265]</td>
</tr>
<tr>
<td></td>
<td>LOGPPT</td>
<td>-0.080638</td>
<td>(0.21285)</td>
<td>[-0.37884]</td>
</tr>
<tr>
<td></td>
<td>LOGCIT</td>
<td>0.585801</td>
<td>(0.38506)</td>
<td>[ 1.52131]</td>
</tr>
<tr>
<td></td>
<td>LOGEDT</td>
<td>-0.438097</td>
<td>(0.31727)</td>
<td>[-1.38084]</td>
</tr>
</tbody>
</table>

R-squared 0.919366
Adj. R-squared 0.895650
Sum sq. resid 0.445369
S.E. equation 0.161859
F-statistic 38.76595
Log likelihood 12.72440
Akaike AIC -0.584730
Schwarz SC -0.288514
Mean dependent 2.509292
S.D. dependent 0.501061