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Abstract-The study argued that terrorism exhibited negative effect on the interaction between foreign direct investment (FDI) and tax revenue performance in Nigeria from 1987-2016. An econometric model was formulated and hierarchical regression analysis conducted. Jarque-Berra test indicated that the series are normally distributed meaning that the data were robust, appropriate and met goodness of fit standard. The results revealed that the interaction between FDI and Tax revenue performance (-75213.95 and probability 0.000) was negatively moderated by Terrorism with the Adjusted R2 0.9098 and F-stat 95.144. Recommendation was anchored on nationwide security improvement to increase tax returns, tax payment, and foreign investors’ confidence on investment in Nigeria.

Keywords- Economic growth; Foreign Direct Investment; Free trade; Tax revenue performance; Terrorism

1. INTRODUCTION

In most economies, macroeconomic policies are developed to stimulate growth by attracting foreign investments and using tax instrument as means of revenue generation. This makes context-induced fiscal policy a major source of increasing tax revenue, market deregulation, investment climate refinement, and multiplier of investment opportunities. As such, fiscal policy enables tax revenue diversification without over-dependence and burden on small businesses, which subjects small firms to external shocks and early death. The Nigeria dwindling tax revenue is attributed to multilayer issues ranging from citizens’ dissatisfaction, legal and quasi-sector tax collection, and multiple taxation. Nevertheless, Osibanjo disclosed that Nigeria realized N767 billion from VAT in 2015, N828 billion in 2016, and N972 billion in 2017, which jointly constituted a growth of about 25 per cent from non-oil sector, but 51percent growth in 2017 only (Vanguard, 2018). While this observation is encouraging, the question remains on how sustainable is this performance with the fall in foreign direct investment inflow mixed with the scope and depth of terrorism. Economic integration and democratization of political systems have triggered affinities for large investment, capital mobility, and financial flight across boundaries to seek economic opportunities and returns on investment. This opportunity-obsessed behaviour is often initiated to leverage on risk reduction (Johnson, Scholes, & Whittington, 2008) through diversification of assets, access to new market, labour, and natural resources, among others. Hence, foreign direct investment (FDI) becomes both political and economic emissary/apostle of globalization. Foreign direct investment growth in number and influence has become strategically prominent in nations’ economic renewal due to its exponential contributions to the growth and sustainable development of nations’ and global economy (Bayar & Ozturk, 2018). Ogbokor (2018) therefore demonstrated that FDI remains a mechanism to vulcanize host economies, robust access to global markets, and improvement in the quality of products and processes. In light of this, Kolawole and Henry (2015) demonstrated that the importance of FDI to developing nations is evident in productivity enhancement and nation’s Gross Domestic Product (GDP) through sustained expanded economic growth. Studies from Jun (2015), Gaalya (2015), and Bayar and Ozturk (2018) have indicated that FDI facilitates the transfer of technology and array of goods and services which are exported to earn foreign exchange. The supply of managerial capability and skills leading to organizational competence and ease to foreign market are common themes documented (Boora & Sandeep, 2017; Silesh, 2017) for FDIs. With the inflow of FDI and expansion of industrial activities, the tax revenue performance is expected to increase for the host nation. Within the purview of tax discourse, the role of FDIs to tax revenue increase is vital to integrated global village. One of the noticeable features of today’s globalization is the conscious encouragement of cross-border investments, to especially increase tax revenue base. Many countries see attracting FDI as an important strategic element for tax increase towards economic development (Gaalya, 2015; Jun, 2015). This is probably because FDI is seen as an amalgamation of capital, technology, marketing, management and upward movement in tax revenue. In addition, Million, Azime, and Gollagari (2016)
explained that foreign firms are not only expected to provide employment generation, productivity spillover, backward and forward linkages but also to fill budget deficits through their contribution to taxes. While FDI and tax revenue are vital to government, the issue of terrorism becomes a challenge to FDIs and the possibility of tax revenue growth. According to Global Terrorism Index (2018)[21], Nigeria was ranked third country affected by terrorism out of 162 countries. It had 7.96 of 10 points in 2012 which rose to 9.31 in 2016. The ripple-effect of terrorism has taken over the socio-economic activities in the North-Eastern Nigeria (Borno, Taraba, Jos, Bauchi, Adamawa, Yobe and Gombe); the tax revenue performance in this region has drastically dropped from ₦17.9 billion in 2011 to ₦12.5 billion and ₦11.9 billion in 2015 and 2016 respectively (FIRS Annual Report, 2016)[15]. Apart from Boko Haram, insecurity in Nigeria has been heightened by the activities of other ethnic militias such as the Niger Delta militants, Badoo Boys in South-Western Nigeria, whose activities manifest in kidnapping, abduction, pipeline vandalism, armed robberies, and hostage taking which threatens economic activities and frustrate foreign direct investment in Nigeria, thus reduction in tax revenue (Okpaga, Chijioke, & Innocent, 2012)[50]; Osabiy, 2015[51]).

Terrorism is both national and international concerns which lead to displacement of people, loss of lives and properties, closure of businesses, loss of government tax revenue at all levels, anger and hatred as well as psychological and emotional trauma coupled with the state of insecurity (Salawu, 2010)[53]. Coincidently, the rise in Terrorism index witnessed an inverse tax revenue performance during the same periods (Central Bank of Nigeria (CBN) and Federal Inland Revenue Services (FIRS) Annual Reports, 2016)[15]. This indirectly implies that the activity of terrorism affected tax revenue performance in Nigeria. Studies on the relationship between foreign direct investment and tax revenue performance in Nigeria, controlled by terrorism as moderator is limited in the empirical literature (Akca & E1a, 2017)[2]; Cervik & Ricco, 2015[10]; Crain & Crain, 2006; Hafsa & Muhammad, 2012[25]). Hence, the need to fill this gap by investigating the hypothesis that terrorism has no moderating effect on the relationship between foreign direct investment and tax revenue performance in Nigeria from 1987 through 2016.

2. LITERATURE REVIEW

Arfan, Dawood, Abdullah and Faudziah (2012) defined foreign direct investment (FDI) as inflow of foreign business activities into the host countries which provides foreign exchange, innovation, capital, transfer of technology, managerial skills, increasing job and augmenting the exports of the country. In the new global economic era, the foreign direct investment (FDI) is considered to be a major contributor to the economic growth of any developed and developing economy (World Bank, 2011[64]; World Development Report, 2011[66]). Foreign direct investment (FDI) is widely recognized as a major source of foreign capital for industrialization and growth process in a developing country, thus, assumed to be an engine of growth and economic expansion. International Monetary Funds (IMF) and the World Bank also favoured FDI rather than foreign Aid (FA) as a vital source of initiating or supporting development process, planning and programming by developing country in the 21st century (United Nation Conference on Trade and Development [UNCTAD], 2016)[58]. Foreign direct investment further serves as foreign market entry mode since some nations limit foreign products accessing domestic markets. As such, Khandare (2016)[36] sees FDI as a means to an end. Nevertheless, foreign direct investments are not immune to negative effects as Imoudu (2012)[30] identified market imperfections in their behaviours and transactions. The following were identified by Loungani and Razin (2001)[40] and Imoudu (2012)[30]: foreign ownership that lowers comparative advantage; foreign investors might strip the business of its value without adding significant value to stakeholders; possibility of economic re-colonisation or refined enslavement; capital flight and repatriation of country’s wealth, and cross border loan rocketries. Though FDIs have these inherent challenges, tax revenue from their operations is expected to increase as the number of FDI inflow increases. Tax revenue represents the income that is accrued to governments through taxation (Hornby, 2010)[28] and fund public expenditure (Haiyambo, 2013)[26]. Taxes are compulsory payments, ruled by laws and various policies of the government (Hornby, 2010)[28]. Developed countries see it as a stable and consistent source of revenue (Ibanichuka, Akani, & Ikebujo, 2016)[29]. Even developing countries, overreliance on natural resources, have started to strengthen tax agencies to maximise the revenue potential from taxation. Taxes are paid by all the citizens depending on the income of individual and could have direct or indirect effects (Ibanichuka et al., 2016)[29]. In particular, government uses tax as instrument of reducing income inequality (James, 2015)[32] and social disparity. Tax revenue performance is measured by comparing actual tax collection to the percentage of potential tax revenues (Cyan, Martinez-vazquez, & Vulovic, 2013)[12]. The potential tax revenue is generated from the predicted values based on regression analysis which emerged from the early works of Lotz and Morss (1970)[39]; Bahl (1972)[51]. Gupta (2007)[24], and Gaalya (2015)[17]. The advantage of this approach lies in its simplicity. Data on the dependent variables are easily available and the estimation models do not impose complex restrictions on the estimation parameters. The approach takes into consideration structural economic features that are likely to affect tax performance. In an international cross-country setting, this approach of calculating tax performance serves a useful purpose of providing comparisons on the size of government revenue across countries of different
economic structures and tax bases. Terrorism as a construct is as old as the existence of man and it triggers disequilibrium to commercial activities, human existence, and statehood. Terrorism threatens the economic and social life of people in contemporary times. Okoye (2017) considers it as one of the most serious global security threats to developed and developing countries. According to Global Terrorism Database (2016) it was reported that over 150,000 incidents of terrorism occurred around the world from 1970 through 2015. It has increased dramatically in recent periods as evidenced by September 11, 2001 World trade Centre attack in New York City, Madrid train bombing in 2004, Bali bombing in 2005, Mumbai bombing in 2006, Arab Spring uprising in 2011, Boko Haram in North-East Nigeria and ISIS in Syria and Iraq among others (Akca & Ela, 2017). Similar to the aforementioned include: Sydney-Australia hostage in December, 2014; Verviers-Belgium attacks in January, 2015 though prevented and Charlie Hebdo’s attack in January, 2015 (Asongu & Nwachukwu, 2015). Hornby (2000) therefore, defined terrorism as the use of violent action in order to achieve political aims or force a government to act. The United States Department of Defense (2011, p.30) defined terrorism as “the calculated use of unlawful violence or threat of unlawful violence to inculcate fear; intended to coerce or to intimidate governments or societies in the pursuit of goals that are generally political, religious or ideological.” According to Global Terrorism Index (2018) terrorism is defined as an intentional act or threat by a non-state actor with at least five important components that can be classified as terrorist activities: violence; political/ideological or religious motivation; fails; the victim(s); the target audience(s). Terrorist activities had led to displacement of people, loss of lives and properties, feelings of suspicion, anger and hatred as well as psychological and emotional trauma and general state of insecurity (Nwaneugo & Odigbo, 2013). Terrorism involves use of unlawful violence, assorted dangerous weapons, attack on larger society by group for the purpose of coercion, intimidation, and instilling fear in people and or killing (Kulsoom & Zakia, 2016). In the context of this paper, acts like suicide bombing, car bombing, rocket propelled grenades, assassinations, abductions and kidnapping, disguising and hijacking for ideological purpose that focused extermination of human lives and destruction of properties are classified as terrorism.

2.1. Foreign Direct Investment, Terrorism and Tax Revenue Performance

Studies in tax increase as a result of foreign direct investment revealed similar pattern of findings both in developed (Groop & Kostial, 2000) and developing nations (Gupta, 2007; James, 2015; Jan & Marta, 2014). Tabasam (2014) and Ogbokor (2018) found positive and significant relationship between FDI and tax revenue increase. Likewise, Egwakhe, Odunsi, and Akinlabi (2018) discovered a positive significant effect of trade openness on tax revenue growth. Indications of tax revenue growth to FDI inflow is found in Silesh (2017) in the discussion of FDI led industrialization in Ethiopia. In essence, measuring tax revenue performance is an assessment of the congruence between FDI and investment climate (Egwakhe et al., 2018; Jun, 2015; Gupta, 2007; Ogbokor, 2018). By understanding FDI, practitioners and academicians will be in a better position to anticipate the effect on tax revenue and the corresponding impact of terrorism. The introduction of terrorism into the dynamics between FDI and tax revenue performance could contradict the works (Egwakhe et al., 2018; James, 2015; Ogbokor, 2018). Since such did not factor in the analysis. However, Cervik and Ricco (2015) and Gupta (2007) examined terrorism on tax revenue, but found that terror activities can slow down economic activities while tax revenue falls. Cal (2011) investigated terrorism, tourism and FDI while estimating the economic cost of terrorism with regard to foreign direct investment and tourism in Northern Ireland during periods from 1970 through to 2007. Taken together, the findings indicated that economic activities were lower in Northern Ireland. In the same vein, Mucklelyb (2011) demonstrated that negative effect on tax revenue due to terrorism exists which Gallant (2007) had established. Hafsa and Muhammad (2012) discussed FDI and terrorism with finding indicating that it led to loss in investors’ confidence in that particular economy. Gallant (2007) examined tax and terrorism with negative impact on tax revenue performance revealed. Meierrieks and Gries (2012) examined the impact of terrorism on economic activity and the study highlighted terrorism as a menace to economic activities of a nation. Akca and Ela (2017) examined economic, financial and fiscal effects of terrorism, with result revealing that terrorists activities have both direct and indirect negative effects on foreign direct investment, capital movement, financial markets, unemployment and economic growth concurring. The study of Araz-Takay, Rain and Okay (2009) which examined the impact of terrorism on economic activity also revealed that terrorism has a greater negative effect on economic activity and growth. Cervik and Ricco (2015) added to the discourse on fiscal consequence of terrorism which showed that terrorism has only marginal negative effect on tax revenue performance, after controlling for economic and institutional factors. Rasheed and Tahir (2012) found that due to instability and uncertainty created by the terrorist activities, both the infrastructure and financial well-being of a country are affected. Therefore, as terrorism increases, FDI decreases. Hussein, Sajid, Sajid and Khadim (2012) examined relationship between terrorism and FDI in Pakistan for fourteen years covering 2000-2013 which found that a negative relationship exists between number of terrorist attacks and net inflow of foreign direct investment. Shahbaz, Javed and Sattar (2013) study found that due to increase in the number of terrorist attacks, foreign
investors showed a negative interest to invest money in Pakistan.

3. METHODOLOGICAL APPROACH

This study adopted ex-post facto research design by relying on secondary data collected from existing sources over a period of time. The research design gives no room to control the variables mainly because they are historical and cannot be manipulated. The aim was to measure the moderating effect of terrorism (z) on the relationship between tax revenue performance (y) and FDI (x). The thesis that this paper argued is that y and x will jointly and mutually reinforce each other. However, the introduction of z into the interaction creates a punctured equilibrium between x and y. Adoption of ex-post facto design is consistent with the studies of Cornelius, Ogar and Oka (2016)[11]; Garang, Yacouba and Thiery (2018)[20]; Mahmood and Chaudhary (2013)[41]; Million, Azime and Gollagari (2016)[43]; Odaba (2016)[47]; Udeh, Ugwu and Onwuka (2016)[57]. The study covered the period 1987 to 2016, which is 30 years with 3 variables amounting to 90 observations. The choice of the periods was informed by the social, political, ethno-linguistic aggressiveness, terrorism, and other security issues in the Nigerian economy. Data was obtained from secondary sources which include documents and historic data. The reason was to help establish a good understanding of the FDI inflows into Nigeria. The second checklist consisted of data on the dependent variable, i.e. tax revenue performance (TRP) during the timeframe. Data on terrorism (z) were collected from Global Terrorism Index (2018)[21] as a moderating variable. Terrorism was dummy coded with a value of 0 for the periods without available data. The study obtained validated and reliable data from legally accredited institutions like the Central Bank of Nigeria’s (CBN) annual reports and statistical bulletin, World Development Indicator (WDI), Federal Inland Revenue Service’s (FIRS) Annual Report, National Bureau of Statistics (NBS), and Global Terrorism Index (GTI) report. Nevertheless, the data were subjected to pre and post estimation test. All the variables in the model were tested for stationarity, serial correlation, multicollinearity, and heteroscedasticity at 1%, 5%, and 10% level of significance for appropriateness. The study employed the Augmented Dickey Fuller (ADF) and Phillips Perron (PP, 1988) tests. Cointegration is a statistical property of time series variables. According to Abadir and Taylor (2000), cointegration refers to a scenario where linear combination of non-stationary variables is stationary. These include the Granger (1981)[22] and Engle-Granger (1987)[14] maximum likelihood and Autoregressive Distribution Lag (ARDL) or bound test cointegration techniques. This study adopted the Jarque-Berra test with its null hypothesis stated that the series are normally distributed. The Jarque-Berra statistics measured a goodness of fit for sample data where skewness and kurtosis matched the normal distribution.

3.1. Model Specification

The researchers built on previous models developed by Groop and Kostial (2000)[23]; Mahmood and Chaudhary (2013)[41]; Million, Azime and Gollagari (2016)[43] and Tabassam (2014)[56] with modification to establish thus:

\[ TRP_t = \alpha_0 + \beta_1 FDI_t + \beta_2 TM_t + \beta_3 FDI*TM_t + \mu_t \]

Where:

- \( TRP \) = Tax revenue performance
- \( FDI \) = Foreign Direct Investment
- \( TM \) = Terrorism
- \( \alpha_0 \) = Intercept or constant term
- \( \beta_1, \beta_2 \) = Regression Coefficients
- \( \mu_t \) = Error term

Total revenue performance (TRP) at time (t) constituted the y, and the estimation is FDI inflow (x) (total inflow of foreign direct investment) at (t), and TM (z) as a moderator with the possibility of acting as a catalyst (+, -) within the period under investigation. The assumption is that FDI is exogenous, TM and TRP are endogenous and a drastic change in FDI should be understood from the purview of TM and has a direct profound effect on TRP. If there is no TM (z) at t (1986-2016), FDI and TRP are mutually independent. Hence, they should be naturally correlated and statistically significant taking other unestimated variables constant. As such, the \( a\text{-priori} \) expectation is that terrorism in all its forms and scope has the power to deflate the tax revenue of Nigeria under the period t, especially as FDI decreases.

4. RESULTS PRESENTATION AND INTERPRETATIONS

From the result in Table 1, the probability value of Jarque-Bera is higher than 0.05, thus the researchers did not reject the null hypothesis (the null is that the residuals are normally distributed) because the P-value is 0.3900. The scientific guideline presupposes that the residuals should be normally distributed (Granger, 1981)[22] which is same as the result, hence the researchers are comfortable with the result. Data were estimated as multiple regression, post-estimation tests established to determine whether the model met the criterion for a good regression model. Ramsey Reset test post-estimation demonstrated that the model is linear because the p-value recorded 0.6099 which is more than 0.05; an indication that the model was correctly specified (i.e. no specification biasness in the model). The regression estimates on the interactional effect between Foreign Direct Investment and Terrorism has a negative effect on Tax Revenue Performance. The coefficients, \( \beta_3 = -75213.95 <0 \) was recorded. This result is consistent with the a-prior expectation. From Table 1, the size of the coefficient of the independent variable (x1) shows that the result between FDI and TRP is positive,
implying that an increase in FDI by ₦1 will affect TRP by ₦104.921 Million. However, when terrorism (z) was introduced, a negative relationship was seen between terrorism (last year) and TRP (current year) which shows that a 1% increase in terrorism rate will lead to ₦1,392.4 Million decrease in tax revenue performance. Similarly, the interaction effect between FDI and TM also reflect a stronger negative association, in that a 1%

increase in terrorism rate will negatively affect the relationship between FDI and TRP by a decrease of ₦75,213 Million. Based on the P-values for each of the coefficients, all our variables except the interaction effect between FDI and TM are individually not significant, the introduction of terrorism as a moderating variable significantly affected the relationship between FDI and TRP at 10%, 5% and 1% chosen level of significance.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std Error</th>
<th>T</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>277346.9</td>
<td>168430.8</td>
<td>1.646651</td>
<td>0.1121</td>
</tr>
<tr>
<td>FDI</td>
<td>104.921</td>
<td>180.6708</td>
<td>0.580731</td>
<td>0.5666</td>
</tr>
<tr>
<td>D(TM)</td>
<td>-1392.471</td>
<td>145268.8</td>
<td>-0.009585</td>
<td>0.9924</td>
</tr>
<tr>
<td>FDI*TM</td>
<td>-75213.95</td>
<td>4936.128</td>
<td>-15.23744</td>
<td>0.0000</td>
</tr>
<tr>
<td>Adjusted R-Square</td>
<td>0.909803</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F-stat</td>
<td>95.14438</td>
<td></td>
<td>0.0000***</td>
<td></td>
</tr>
<tr>
<td>Jaque-Bera Test</td>
<td>1.883</td>
<td></td>
<td>0.3900</td>
<td></td>
</tr>
<tr>
<td>Ramsey-RESET TEST</td>
<td>0.2603</td>
<td></td>
<td>0.6099</td>
<td></td>
</tr>
</tbody>
</table>

*Note: ***, ** and * indicate 1%, 5% and 10% level of significance respectively. The variable names remain as described in the model. Source: Researchers’ Computation, 2018*

Furthermore, the Adjusted R2 for the model in Table 1 showed that about 91% variations in Tax Revenue Performance can be attributed to the influence of all our explanatory variables (FDI as controlled by TM) while the remaining 9% variations in the respective dependent variable were caused by other factors not included in this model. The F-stat showed a probability value of 0.00% which indicates that the explanatory variables put together are statistically significant because the probability value is less than 5%, the level of significance adopted for this study. Therefore, the model is statistically significant and has a good fit and predictive validity. Thus, the assumption that FDI as controlled by terrorism does not have significant effect on tax revenue performance in Nigeria is not tenable.

4.1. Discussion of Findings

The paper’s objective was to ascertain whether terrorism significantly moderated the relationship between FDI and tax revenue performance in Nigeria from 1987-2016. The findings revealed that terrorism exhibited moderating effect on the relationship between foreign direct investment and tax revenue performance in Nigeria. The result supports the previous findings of Cervik and Ricco (2015)[10] and Gupta (2007)[24] who demonstrated that terrorism has effect on tax revenue, but they found that terrorist activities can also slow down economic growth while tax revenue falls. Cal (2011)[8] investigated terrorism, tourism, and FDI while estimating the economic cost of terrorism with regard to foreign direct investment and tourism in Northern Ireland during the periods from 1970 through to 2007 with similar conclusion that terrorism hurt tourism and FDI inflow. It further provided credence or corroborated the findings of Hafsa and Muhammad (2012)[25] in their research work on FDI and Terrorism: Co-integration and Granger Causality. The most obvious reason for the low rate of FDI inflow into the economy with higher terror activities is the loss in investors’ confidence. Globalization has made it easy to have cross border transactions, but at the same time, it has increased difficulties and uncertainties in these transactions especially as terrorism has both local and international linkages. The finding also supported Gallant (2007)[19] who examined tax and terrorism: a new partnership that terrorism has negative impact on tax revenue performance which, Muckleyb (2011)[44] later demonstrated and sustained.
5. CONCLUSIONS

There is a body of literature dedicated to investigating the interaction between foreign direct investment and tax revenue performance. Despite the number of papers, there is no consensus yet and not all have introduced and questioned the role of terrorism into the discourse in Nigeria between 1987 and 2016. Furthermore, this line of research is plagued by the endogeneity problems and resolving this endogeneity has not been easy especially issues like infrastructure, road network, non-terrorism security issues. In addition, legal and regulatory changes appear to be more reliable in the investigation of tax performance, FDI, terrorism and their interactions. While this paper did not argue along this line of enquiry, future works could be focused on the aforementioned factors to reverse the dwindling tax revenue as a result of terrorism. The question of terrorism is still open as current paper discovered a negative effect and as such the paper proposed joint political-will, security and economic approaches to resolving the causal problems underlying endogenous terrorism; however they are not easy to implement. The emerging evidence shows that increasing FDI inflow is likely to emerge endogenously driven and thus depends on specific characteristics of the government and investment environment.

6. REFERENCES


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[59] United Nations Congress Trade and Agreement Department (UNCTAD), 2017

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