BOKO HARAM INSURGENCY: CONSEQUENCES FOR FOREIGN TECHNOLOGY FLOWS IN NIGERIA

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ABSTRACT

Theoretical literature suggests that insecurity is harmful and as a matter of fact, hinders investment. However, there is lack of consensus in empirical evidence as a number of studies have discovered positive association, against negative association by some others. This study was embarked in response to earlier call for explicit investigation of the empirical impact of insurgency on the flow of foreign technology in Nigerian economic space. To this end, B- HRM (proxy for Boko Haram, insurgency) was introduced in the framework of a combination of Internalization hypothesis, Industrial organization hypothesis and Eclectic paradigm approaches to foreign technology modeling. An equilibrium relationship was established in the analysis that followed. The result of the ECM model was consistent with earlier findings, as it reveals that insurgency exerts a massive upward push on inflow of foreign technology in Nigeria. This happens to be the case, as investors decisions were hinged on profit motives than security issues.

KEYWORDS: Boko Haram Insurgency, Foreign Technology Flows, Equilibrium Relationship, ECM Model, Nigeria

1. INTRODUCTION

Insurgency in recent time has left thousands of Nigerians dead, many abducted, many others forced to leave their homes, and businesses winding up their operations. So far, ongoing military actions by the authorities are commendable, but needed to be complemented on all fronts, in terms of finding a lasting solution to the crises, as well as evolving a short and medium term management strategies to deal with observed negative impact of insurgency. As a step towards complementing commendable government military actions, this study is designed to critically examine and analyze the impact of Boko Haram insurgency since inception, and possibly proffer workable policy options geared towards mitigating any observed negative impacts. The investigation is set to determine how and the extent to which Boko Haram insurgency has affected the flow of foreign technology in Nigeria. Social tension is undoubtedly one of the major challenges faced by many developing countries for a considerable number of decades. Specifically, sub-Saharan Africa and the Middle East are two notable flash points in the world. Within the sub-Saharan Africa, the inhuman activities of Boko Haram Islamic Militants in Nigeria, since 2009 ranks it next to the Al-Qaeda. The group is known to have links with Al-Qaeda and was designated by the United States as a terrorist organization in November 2013 (Blanchard, 2014). From July 2009 till date, the group has carried out a number of abductions and killed more than 10000 civilians (2000 of this happened in the first half of 2014) in attacks occurring mainly in north-east and north-central states – since then till date, more attacks and casualties are being recorded on each passing day. These attacks so far have rendered over 1.5 million people homeless; about 650000 of these fled to refuge camps in neighbouring Cameroon and Niger Republic.
The global relative impact of this social problem is evidenced in Nigeria’s position in the Global Peace Index (GPI) as well as Global Terrorism Index (GTI). Nigeria position in the GPI index (out of 162 countries included in the ranking) has been in a downward trend since 2008. From 118th position in 2008 the country dropped to 127th, 131th, 137th, 146th, 148th and 151th in 2009, 2010, 2011, 2012, 2013 and 2014 respectively. In GT index, the country is ranked 7th in the world (2nd in Africa after Somalia; Somalia is ranked 6th in the world). All these have serious consequences on the Nigerian economy; international investments funds are flowing to other countries with better records of security than coming to Nigeria. Businesses are, closing down their operations in the north-east and north-central regions, or operating at abysmal capacity, the consequences of which manifests in decreasing levels of outputs for most producing firms. The danger in these is the fact that violence leads to low foreign technology inflows and high outflows which translates to continuous drops in firms’ output levels within the economy. This translates to low levels of growth which in turn leads to higher levels of violence, the containment of which produces lower economic growth. Given the foregoing, meaningful research efforts aimed at understanding the effects of these social menace on the economy and providing valid and reliable information that can serve as road-map to managing as well as solving the existing problem should be of great importance for policy. Figure 1 shows trends in Nigeria’s foreign technology inflows.

Figure 1

Trend analysis as can be observed in figure 1 shows that foreign technology inflows on the average continues to rise despite the Boko Haram challenge. However, it should be noted that the aggregate data has oil and non-oil technologies as its components. Being an oil economy, greater proportion of foreign technologies into Nigeria is predominantly oil technology. This form of foreign technology is believed not to be affected by the threat of current insurgency, since they operate mainly within the Niger Delta region (away from the region affected by the threat of Boko Haram insurgency). This may offer explanations for the observed behaviour of foreign technology inflow in Nigeria. The behaviour of the data in response to Boko Haram challenge will be better appreciated where purely non-oil data is employed, or it might be possible that there is more to this than trend analysis can offer.

International literature on determinants of foreign technology inflows are drawn along different lines. Earlier studies argue that insecurity is not completely bad, that a country can exercise its military as well as political power to ensure the security of trade and investments (Gallagher and Robinson, 1953). Some group of studies carried out later-on discovered a negative relationship existing between insecurity and inflow of foreign technology. To these studies, developing countries are particularly prone to the economic ramifications of terrorism. This often leads to loss in GDP,
significant loss in foreign technology and growth in GDP (Abadie and Gardeazabal, 2003; 2008; Enders et al, 2006; Enders and Sandler, 2008). Another group of studies attribute foreign technology inflow to better governance. These studies argue that better governance lead to significant foreign technology inflows and that less developed countries(LDCs) stand to benefit more at the margin from governance improvement than the richer countries (Golberman and Shapiro, 2002).

Within the African continent, the observed lack of consensus among scholars in international literature also manifests among African scholars, as country specific studies differ in their findings. In a study focused on some selected African countries with known records of conflicts, “Think Security Africa (2010) reported a clear and positive correlation between insecurity and foreign technology inflows in central African Republic, Chad and Burundi. This is in conformity with later study findings by Ikpe and Nteegah (2014) for Nigeria. Evidence for Somalia, Sudan, the DR Congo and Ivory Coast is less clear. Even with the established presence of serious insecurity, foreign technology continued to enter into these economies. Some other Nigerian specific studies found negative relationship between Niger Delta crises and foreign technology inflows in Nigeria (Harper 2009; Okah 2010; Alaibe, 2010).It is on record that, previous Nigerian specific studies in this line of investigation focused on the Niger Delta crises (Harper, 2009; Okah, 2010; Alaibe, 2010). Ikpe and Nteegah (2014) broadened its focus to include Boko Haram insurgency. Given non-conformity of result outcome with theoretical expectation, the paper recommended explicit investigations into these distinct forms of social insecurity and foreign technology relations in Nigeria. This paper departs from existing Nigerian specific studies in that by its design, it is expected to provide new insight in the empirical impact of the activities of Boko Haram Islamic Militants Insurgency on the flow of foreign technology in Nigeria. In the light of the foregoing, the study explicitly examines the impact of Boko Haram insurgency on the flow of foreign technology in Nigeria.

The paper is divided into 5 sections: section 1 focuses on discription of the existing problem – giving necessary information on the extent and limits of previous studies, brief history and development of insurgency in Nigeria was the concern in section 2, while section 3 deals with methodology and data; section 4 gives analysis of results, conclusion drawn in 5 with policy options recommended.

2. BOKO HARAM AND INSURGENCY IN NIGERIA: THE METAMORPHOSIFICAL TREND

Prior to the 2007 post election violence, social insecurity in Nigeria has been in the form of tribal/ethnic and religious violence. Ethnic militancy for instance is thought to have been one of the causes of the 1967 – 70 civil war. Religious violence on the other hand reached a new height in 1980 in Kano the largest city in the north, mostly populated by Ibo traders from the predominantly Christian community. The Muslim fundamentalist sect (Yan Tatsina e – followers of Maitasaine) then instigated riots that resulted in four to five thousand deaths. Maitasaine was killed in a military crackdown, thus fuelling a backlash of increased violence which spread across other northern cities over the course of over two decades (Ewi, 2013)”.

Social crises in Nigeria then took a different dimension between 1990 to 2009 with the emergence of armed ethnic militia; Movement for the Emancipation of the Niger Delta (MEND), who felt that the Nigerian system has been unfair to the people of Niger Delta region – in terms of resource distribution. Crises created by the activities of this group deepened after 2007 election, culminating in 2008-2009 to kidnapping and abductions of foreign oil workers. Kidnapping then became a new wave of crime and subsequently spread to the South-Eastern states. Upon Yaradua’s death and his subsequent succession as president, the heat was then turned-up on the Jonathan led government through the activation of
Boko Haram militancy. The group has been unleashing terror and mayhems on innocent law abiding citizens across northern states – though mainly across north-eastern and north-central states. Their activities led to loss of lives and properties. Given their focus on civilian targets, many are loosing their lives by the day, thousands are fleeing their homes to neighbouring Cameroon and Niger Republic, businesses and schools are closing up and more abduction are being carried out by the group.

Before Yaradua’s succession as president in 2010, Boko Haram militant group was relatively silent in its activities. Ekereke (2013) posits that there are conflicts in the literature as to the actual date of the formation as well as the leadership of the sect. Adibe (2012) observed that the popular belief is that the sect was founded around 2001 to 2002. Madike (2011, in Adibe, 2012) on the contrarily, traced its formation to as far back as 1995. According to the paper, one Lawan Abubakar who later left for further studies at University of Medina, Soudi Arabia actually founded Boko Haram Islamic militants’ sect. Under abubakar, the sect was known as Sahaba (Madike, 2011 Adibe, 2012). The conflicts notwithstanding, the fact remains that Boko Haram sect, though in existence for a long period of time, did not become notorious in the country until 2009. It was in 2009 that the sect participated actively in sectarian violence in Jos Plateau State under the leadership of Muhammed Yusuf (The Nation, Jan, 2013). Yusuf died in police custody and Abubakar Shekau succeeded him as leader of the group. Shekau’s death was formally made known at the 2014 UN general assembly. In reaction to this development, it is widely believed that Boko Haram in their operational structure and tactics is resilient and independent of their leader. As a result, the death of Shekau should not be interpreted to mean the end of insurgency in Nigeria – attacks, kidnappings and abductions by the group continues even after Shekau’s death. Should we expect an end to the menace, as mantle of leadership returns to the north after the 2015 presidential election? – The world watches on.

3.0. METHODOLOGY

Theoretical Framework

Chosen theoretical framework for assessing the impact of Boko Haram Insurgency on the flow of foreign technology in Nigeria, is a combination of internalization hypothesis, industrial organization hypothesis and eclectic paradigm. From the perspective of internalization hypothesis, firms would rather take to inter-firms transactions than market operations due to existence of transaction cost. So, firms choose to invest abroad in order to benefit from inter-firms transactions as against benefit derivable from market operations. Industrial organization hypothesis argue that domestic firms are assumed to have lower costs of operations, since they are more familiar with local conditions such as legislation, business culture, language etc. As a result, foreign firms must have an offsetting or firm-specific advantage allowing it to compete with domestic firms if it chooses to operate from abroad. Therefore, in the absence of firm-specific advantage, firms would rather domesticate their operation.

Eclectic paradigm believes that on the availability of three sets of relative advantages, firms would rather choose to invest in a given economy than operate from abroad. The three relative advantages include: ownership specific advantages. This particular advantage is based on the concept of firm-specific advantages; the second is location specific advantages. This form of advantage arise from direct access to domestic market, low unit, direct assess to raw materials as well as avoidance of tariffs and non-tariffs barriers; the third is internalization specific advantages. The existence of this form of advantage determines how a firm chooses to use its ownership advantage – the firm’s most efficient alternative under this condition is through foreign technology or export (Johnson, 2005; Demisia, 2010; Alavinasab, 2013).
Empirical Model

In modeling the impact of Boko Haram insurgency on the flow of foreign technology in Nigeria, and drawing from the above theoretical framework, we shall follow Alavinasab (2013)’s specification of FDI model for Iran. In this, we introduce B-HRM (proxy for Boko Haram Insurgency). The econometric equation is specified in dynamic logarithmic form as:

\[
\log F_{tech} = \beta_0 + \beta_1 \log grRGDP_t + \beta_2 \frac{\text{NOM}}{\text{RGDP}}_t + \beta_3 \log RI_t + \beta_4 \log B - HRM_t + \beta_5 \log \frac{\text{GCEXP}_t}{\text{RGDP}} + \mu_t
\]  

(1)

Where, log stands for natural logarithm, \( \mu \) for the error term, “t” is the time subscript and \( \beta_1, \beta_2, \beta_3, \beta_4, \beta_5 \) are the elasticities of growth rate of real gross domestic product, import as a ratio of RGDP, return on investment (measured by \( \frac{\text{RGDP}_t}{\text{NOM}} \) per capita), dummy for Boko Haram Insurgency and government consumption expenditure respectively. Apriori expectation is that \( \beta_2, \beta_3, \beta_4 > 0 \), while \( \beta_4 < 0 \)

Data

The study is based on secondary and. The secondary data spans over the period 1981 to 2012. In it, data for F-tech and GCExp were sourced from the Central Bank of Nigeria (CBN) Statistical Bulletin, while \( \log \frac{\text{NOM}}{\text{RGDP}} \) and \( \log \frac{\text{GCEXP}_t}{\text{RGDP}} \) were computed from annual data on RGDP and Imports as published by the CBN. B-HRM is dummy for Boko Haram Insurgency – it was assigned the value zero (0) for pre-crises period and one (1) for post-crises period.

4.0 ANALYSIS OF RESULTS

Result of stationarity test conducted on various macroeconomic aggregates establishes stationarity in all the series. Some of these were stationary at level form, while others were stationary at first and second levels of differencing. The order of integration of the dependent variable (F-tech) in relation to that of each of the explanatory variables indicates a suspected absence of a long run relationship in the model. However, the confirmatory test to substantiate this proved otherwise, as test statistics indicate the presence of two cointegrating equations at both 5% and 1% levels of significance. This was substantiated by result of Error Correction Model (ECM). The ECM produced a better result, and it is upon this that analysis herein are Based.

Table 1: Result of Error Correction Model (ECM)

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Independent Variables/Constant</th>
<th>Coefficients</th>
<th>T-Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>F-tech</td>
<td>C</td>
<td>8.236446</td>
<td>8.987346*</td>
</tr>
<tr>
<td></td>
<td>grRGDP</td>
<td>0.014253</td>
<td>0.551669</td>
</tr>
<tr>
<td></td>
<td>IMP/RGDP</td>
<td>0.246110</td>
<td>1.837649</td>
</tr>
<tr>
<td></td>
<td>RI</td>
<td>1.198076</td>
<td>2.515000*</td>
</tr>
</tbody>
</table>
From the ECM result as specified in table (II) it was observed that three out of the six coefficients are statistically significant at 5% level of significance. All the variables (with the exception of B-HRM) have the theoretically expected signs. The coefficient of multiple determinations (Adj $R^2$) of 0.92 indicates a very strong explanatory power of the model. It means that changes in foreign technology flow (F-tech, the dependent variable) can actually be accounted for by the set of explanatory variables. F-statistics of 28.85 shows that the explanatory variables are non zero at 5% level of significance, and the model is free from autocorrelation problem, given a Durbin-Watson value of 2.09, and the ECM coefficient is correctly signed. The result when interpreted in terms of the size and magnitudes of various coefficients in the model, shows that 1% change in growth rate of Real Gross Domestic Product (grRGDP), import as a ratio of Real Gross Domestic Product (IMP/RGDP), Government Consumption Expenditure (GCEXP), changes the flow of foreign technology (F-tech) in Nigeria by 1.4%, 24.6% and 7.5% respectively - though not significant. On the other hand, 1% change in the level of return on investment (RI), Boko Haram insurgency (B-HRM) significantly changes the flow of foreign technology by 119.8% and a massive 708.5% respectively. Furthermore, the speed of adjustment to equilibrium on the event of disequilibrium significantly stood at 0.002%.

RESULTS OF DESCRIPTIVE STATISTICS

Result of white hetroscedasticity test indicates the non violation of the assumption of Classical Normal Linear Regression Model (CNLRM). This means that the variances are constant over time. On the other had, result of multicollinearity test indicates a relative absence of multicollinearity problem, as all the pair-wise correlation figures (with the exception of B-HRM-GCEXP) fall below the conventional rule of thumb mark of 0.8. The Jargue-Bera (JB) test of normality rejects the hypothesis that the residuals are normally distributed. The analysis produced a JB statistics value of 32.00009, and the probability of obtaining this value was given as zero. The study attribute this outcome to the fact that JB test of normality is an asymptotic test, which our sample of 32 observations fell short of

DISCUSSIONS

Findings from the result show that Nigeria continues to experience a massive inflow of foreign technology despite challenge of insurgency. This is however not surprising, as similar result had earlier been established for Central African Republic, Chad and Burundi, where Think Security Africa (2010) discovered a clear positive relationship between insecurity and inflow of FDI. It is also of note that security is only one out of the set of indicators that account for the flow
of foreign technology in and out of any given economy. Therefore, it is a matter of one weighing the options. In as much as we know that insecurity discourages investment, however, it may not be the most important consideration on the log. Our line of argument can better be appreciated when we consider the fact that result herein also indicates a significant positive relation between foreign technology inflow and return on investment (RI). From the result, 1% increase in RI significantly stimulates inflow of foreign technology by 119.8%. In theory, return on investment is the primary factor which accounts for the decision of firms to or not to invest in any given economy.

This offers explanation for established positive relationship between foreign technology inflow and growth of most economies. In a nutshell, explanations for the result outcome herein is implicit in the fact that, where business opportunities have the potential to generate a high return on investment but are located in countries that are relatively unstable, inflows of foreign technology will generally continue despite instability (Think Security Africa, 2010). Secondly, we should bear in mind that insurgency in Nigeria within the period under investigation, is localized within the north-eastern region. This means that other regions, (Niger Delta - the hub of oil and gas activities) are relatively stable-hence the continued inflow of foreign technology in the midst of insurgency. Other result outcomes indicate that 1% increase in the level of growth rate of Real Gross Domestic Product (grRGDP) for instance, positively stimulates inflow of foreign technology by 1.4%. The result though not significant, but confirms the positive relationship hypothesis between foreign technology inflow and the growth of economies.

Similar confirmatory results were observed for hypothesized positive relationships between the inflow of foreign technology and import-Real GDP ratio (IMP/RGDP) and government consumption expenditure (GCEXP) respectively. 1% increases in the level of IMP/RGDP and GCEXP positively but insignificantly stimulates inflow of foreign technology by 24.6% and 7.5% respectively. In Nigeria, ease of importation of machineries, other equipments and raw materials is important factor of consideration among operating foreign firms. Often time, they use it as a window of opportunities for them to massively repatriate earned profits back to their home countries in Europe and America, such that they take away more funds from Nigeria than they brought in initially. The level of government consumption expenditure in the budget under normal circumstances sends a positive signal of the intentions of the government to perform its statutory role of creating enabling environment for business to thrive. The extent to which this hope actually translates to reality is a “secondary matter”. Fiscal funds are often times diverted to private foreign accounts rather than channeling it into productive investments in the economy. The consequence of this manifest in the level of infrastructural decay in the economy, and the industrial sector is made worse-off.

CONCLUSIONS AND RECOMMENDATIONS

This paper explicitly and empirically explored the impact of Boko-Haram insurgency on the flow of foreign technology in Nigeria using data that spans over the period 1981-2012, based on the recommendation of Ikpe and Nteegah (2014). The exclusive focus on insurgency was primarily done to either reestablish the fact that insecurity (irrespective of the form) has a positive relationship with inflow of foreign technology in Nigeria, or establish a new relationship peculiar to insurgency. To accomplish this task, extensive literature survey was conducted along-side analysis of empirical model that followed. Result re-establishes a positive relationship between foreign technology inflow and insecurity. However, there exists a significant difference on the magnitude of the impact. The study discovered a massive inflow of foreign technology into Nigeria within the study period despite the challenge of insurgency; 1% increase in the level of insurgency
corresponds to a rate of change of 708.5% in inflow of foreign technology. This by far exceeds what the figure was with Ikpe and Nteegah’s findings of 207.2. Secondly, the study establishes return on investment as a most important factor considered by foreign firms as they choose between whether or not to invest in the Nigerian economy.

As can be observed from the foregoing, foreign firms are stimulated most by higher returns on investments. This is not unusual, giving the common knowledge that private enterprise are driven by the desire to make profit. What is unusual and should be of great concern and discouraged is the way and manner in which multinational corporations carry-out their operation in their quest for profit. The activities of these firms in Nigeria over time undermine the developmental objectives of the Nigerian state, therefore, are not socially desirable to the Nigerian people. Given the weak regulatory framework of the Nigerian system, “these firms” which lacks the capability and capacity to do business, have found “save heaven” in Nigeria such that, even in the midst of insurgency, Nigeria continues to experience massive foreign technology inflows.

On the bases of these, this study recommend strengthening of existing regulatory framework in Nigeria, to oversee the activities of all foreign firms operating in the economy. It indeed has become necessary, to ensure that only firms with technical content capable of making significant positive contribution(s) to the developmental objectives of the Nigerian economy, are licensed to operate. This measure when complemented with current efforts geared towards bringing an end to insurgency, and tackling the problem of corruption, shall propel the economy to sustainable growth and development.

REFERENCES


