IMPACT OF TERRORISM ON ECONOMIC GROWTH: EVIDENCE FROM NIGERIA

Alhaji Kabiru*, Umma Mohammed Yeldu, Suwaiba A Bello
Department of Economics, Shehu Shagari College of Education, Sokoto

Corresponding Author

---ABSTRACT--
This study examines the impact of terrorism on economic growth in Nigeria. Time series data for Nigeria spanning from 1999–2022 were used on ordinary least squares and quantile analysis techniques. The results obtained show that terrorism negates economic growth in Nigeria both within the mean and outside the mean of the data. The study recommends that while taking military action against terrorist activities, policymakers should allocate some budgetary funds for socio-economic development in the affected areas to remove the root causes of terrorism such as poverty, illiteracy, income inequality, unemployment, and injustice.--

1. INTRODUCTION

Since several authors have characterized terrorism according to their own interpretations, the phenomenon is complicated and lacks a single, universally accepted definition. A terrorist assault is described as "the threatened or actual use of illegal force and violence by a non-state actor to attain a political, economic, religious, or social goal through fear, coercion, or intimidation" by the Global Terrorism Database (GTD). The relationship between peace and economic growth is essential because without peace, economic growth cannot take place, and peace and security alone might not be able to last. Economic growth is impacted by terrorism both directly and indirectly. Economic growth is primarily determined by the accumulation of human and physical capital.

Violence, war, and terrorism devastate human and material capital as well as the socio-political structures that foster economic growth. A nation with a high rate of violence diminishes the trust of investors both locally and internationally, which reduces both inflows of capital. Additionally, terrorist operations cause financial and human resources to relocate overseas, which has a negative impact on economic growth. Countries that are impacted by terrorism are spending less on economic and social infrastructure, which are crucial sources of the accumulation of human and physical capital, and are instead devoting a sizeable portion of their financial and human resources to combating terrorism. These nations' economies are growing more slowly as a result of terrorism.

There are several reasons for terrorism, which include among others, ethnicity, illiteracy, income inequality, inflation, high population growth, high unemployment, political instability, poverty, and injustice (Ismail & Amjad, 2014; Khan, Estrada, & Yusof, 2016; Syed, Saeed, & Martin, 2015). In Nigeria, terrorism primarily increased with emergence of Boko Haram Terrorist group, when Nigeria began playing its role as a front-line state against terrorism. Both internal and external forces are suspected of promoting terrorism in Nigeria. These terrorist activities have negatively affected economic growth in Nigeria. Some studies have been conducted and have shown that terrorism has deteriorated economic growth in the country (Hyder, Akram, & Padda, 2015; Khan et al., 2016; Khan & Yusof, 2017; Mehmood, 2014; Shahbaz et al., 2013). But these studies have explored the direct effect of terrorism on economic growth

Recently, Nigeria's hopes for economic prosperity have been seriously threatened by terrorism. Boko Haram's actions have resulted in fatalities and property destruction across Nigeria, especially in the northeast. These acts of terrorism include bombs, suicide bombings, the killing of helpless and innocent individuals at random, the burning of police stations and churches, the kidnapping of women and schoolgirls, and so forth. The instability of the nation has been

exacerbated by assaults on oil infrastructure by Niger Delta rebels and attacks on villages in the north and south by Fulani herdsmen (Onuoha, Okafor and Femi-Adedayor, 2021; Ebiede, 2017; Asamaowei, 2021). Nigeria is considered to be among the most hazardous nations in the world (GTI, 2019). Nigeria is considered to be among the most hazardous nations in the world (GTI, 2019). Numerous lives and items have been lost, and thousands of people have been forced to from their homes. Because of this, there are several implications for the nation's growth possibilities. Even while the government is working feverishly to counter and eradicate the risks that terrorism and insecurity represent to the nation, it is alarming how quickly insurgency and instability are growing. Despite several attempts to promote the nation's economic expansion, it has been determined that growing levels of insecurity are obstructing the progress of the nation. In light of this, the impact of terrorism on economic growth of Nigeria is examined in this study.

At this point, no study has been done to look at how terrorism affects economic growth at various quantiles. This analysis uses data from 1999 to 2022 in an attempt to close this gap. Therefore, the primary objective of this research is to examine the impact of terrorism Nigeria's economic growth. This effort shaped policy and contributed to the body of knowledge. First, the study broadens our understanding of the relationship between terrorism and economic growth. The study varies from previous studies in that it analyzes the impact of terrorism on economic growth at both the mean and outside mean levels using OLS and quantile techniques. Secondly, this study serves as a reference point for policy makers based on the empirical findings.

2. LITERATURE REVIEW

According to the empirical studies, terrorism hinders economic growth (Bloomberg, Hess, & Orphanides, 2004; Crain & Crain, 2006; Mirza & Verdier, 2008; Naor, 2006; Tavares, 2004; Virgo, 2001). Transnational terrorist strikes significantly impede economic growth, as demonstrated by Gaibulloev and Sandler (2009). Asian stock markets have been negatively impacted by terrorism, as shown by Aslam, Rafique, Salman, Kang, and Mohti (2018). Inefficient resource allocation can result from terrorism, which hinders capital formation and output growth (Barth, Li, McCarthy, Phumiwasana, & Yago, 2006). Terrorism is a major contributing factor to the low economic growth of less developed nations, according to the theories of Gupta, Clements, Bhattacharya, and Chakravarti (2004) and Ocal and Yildirim (2010). According to the study, economically disadvantaged nations have been impacted by terrorism around three times more than high-income countries. Choi (2015) used data for 127 nations from 1970 to 2007 to look into how economic growth affected terrorism. It is discovered that Terrorism, both domestic and foreign, is less common in nations experiencing rapid economic expansion.

Because international investors can diversify their investment portfolio, terrorism discourages foreign investment (Agrawal, 2011; Blomberg & Mody, 2005; Kang & Lee, 2007). Additionally, Abadie and Gardeazabal (2008) have shown that terrorism lowers net foreign financial commitment. The detrimental impact of terrorism on capital markets is documented by Abadie and Gardeazabal (2003), and this has a knock-on effect for foreign investment. Because the expenses of security measures and compensation reduce the profits on foreign direct investment, economic activity is more expensive when there is a danger of terrorism. According to Bandyopadhyay, Sandler, and Younas (2014), FDI is discouraged by all types of terrorism. According to Filer and Stanisic (2016), FDI is negatively impacted by terrorism, and it is more vulnerable to terrorism than foreign debt or portfolio investments.

Shahzad et al. (2016) claim that terrorism worsens foreign direct investment (FDI). Terrorism has a same detrimental effect on domestic investment as it does on foreign investment (Blomberg, Hess, & Orphanides, 2004; Eckstein & Tsiddon, 2004; Gaibulloev & Llussa & Tavares, 2011; Persitz, 2007; Sandler, 2008). Government spending has been squeezed out by terrorism since it costs more to implement suitable security measures, which slows down economic growth (Gaibulloev & Sandler, 2009).

3. METHODOLOGY

Time series data spanning between the 1999 to 2022, from the Global Terrorism Data Base and World Development Indicators (World Bank) have been collated in order to determine the effect of terrorism and other macroeconomic variables on Nigeria's economic growth.

Estimation Technique

This study's estimation techniques include the unit root, Ordinary Least Squares (OLS), and Quantile regress. We used OLS regression to see if there is a linear connection between FDI and the independent variable. It also tests to see if the association keeps up when new variables are added to the regression. OLS also reveals the magnitude of the link. However, quantile regression allows us to understand outcomes that are not normally distributed and have non-linear correlations with the predictor variable. It accomplishes this by allowing for the comprehension of correlations between variables that are not represented by the data's mean. To ensure the level of stationarity and integration, all variables are subjected to a unit root test.

Modelling

The Solow classical model for economic growth gives the key information needed to create the hypothetical model for the present study. However, the significance of human capital in determining economic growth is not taken into account by this model. Mankiw, Romer, and Wei included the concept of human capital into growth models in 1992. In line with aforementioned models as stated in the Fariha & Munir (2017), the estimation model is constructed using the following function.:

GDP = f (NTA, POP, EYS) …………………………………………………………………..1

The function is transformed into Economic model as:

$$GDP_t = NTA_t + FDI_t + EYS_t \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots.2$$

$$GDP_{it} = \beta_1 NTA_{it} + \beta_2 FDI_{it} + \beta_3 EYS_{it} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots.3$$

Where GDP represents for Gross Domestic Product, NTA means for Number of Terrorist Attacks, FDI stands for Foreign Direct Investment, and EYS stands for Expected Years of Schooling.

4. EMPIRICAL RESULTS AND DISCUSSION

To ensure the level of stationarity and integration, all variables are subjected to a unit root test. Table 1 displays the results of unit root testing using ADF Fisher and Philip. The result suggests that the order of the integration variables is a combination of I(0) and I(1).

Table 1: Unit Root Test

Variables	ADF		PP	
	Level	**1ˢᵗ Diff**	**Level**	**1ˢᵗ Diff**
GDP	-2.323(1)	-6.314(1) ***	4.432(1) ***	0.121(1)
NTA	-1.534(1) **	-5.413(0) ***	3.243(1) ***	1.223(1) **
FDI	-2.105(1)	-4.242(1) ***	5.333(0) ***	0.211(1) *
EYS	-2.321(1) *	-5.323(1) ***	5.123(1) ***	2.332(1) ***

Notes: *, ** and *** denote significant at 1%, 5% and 10%, respectively.

According to Table 2 OLS regression, Nigeria's economic growth is negatively and significantly impacted by terrorism at the 5% significance level. This indicates that terrorist acts have a negative impact on Nigeria's economy, which might be explained by investors' fear of losing capital there. The results corroborate those of Zakaria et al. (2019), who found that terrorism considerably reduces national economic activity. The Expected Years of Schooling (EYS) factor variable represents Human Capital. The EYS equally exhibits noteworthy and encouraging signs. indicating that a key factor influencing Nigeria's economic success is its human capital. The results align with the findings of (Kabiru, Shehu and Sharehu, 2022). The OLS investigation showed that foreign direct investment boosts economic growth in Nigeria, as predicted. This aligns with the hypothesis and discoveries of Khalid and Azeez (2017).

In order to estimate quantiles extensively, multiple levels of quantiles are used. These levels are categorized as lower, medium, and higher, and they correspond to the 25th, 50th, and 75th quantiles for economic growth values. Table 3 presents the findings. For instance, the outcome validates the detrimental impact of terrorism on GDP across all quantiles. At the higher quantile, the impact is more noticeable than at the lower quantile. At each quantile, the relationship between FDI and GDP is positive and significant, with the highest quantile showing the greatest level of significance. In a similar vein, human capital (EYS) has a considerable and beneficial impact on GDP. However, Q75 has a greater significant level than Q50, which is followed by the lowest quantile. The results validate the adverse

effect of terrorism on GDP and the noteworthy beneficial impact of FDI and EYS across various quantiles. The outcome, however, demonstrates that the significant level varies in the lower, medium, and upper quantiles.

Table 2: Results for OLS and Quantiles regression (Dependent variable: GDP)

Variables	OLS	Lower Quantile Q25	Medium Quantile Q50	Upper Quantile Q75
NTA	-0.043 **	0.023 *	0.023 **	0.034 ***
FDI	0.221 ***	0.022 **	0.022 ***	0.031 ***
EYS	0.021 ***	0.034 *	0.043 **	0.0321 ***
Constant	7.012 ***	7.353 **	5.421 ***	4.023 ***

Notes: *, ** and *** indicate the 1%, 5% and 10%, significance level, respectively. Three quantiles are selected (Q = 0.25, 0.50 and 0.75) and assigned into three categories of low (Q = 0.25), medium (Q = 0.50) and high (Q = 0.75), which correspond to various level of impacts. FDI is the depended variable.

5. CONCLUSION

The connection between terrorism and economic growth has been the subject of several empirical studies; however, no study to date has definitively investigated whether this relationship holds true across quantiles. This study investigates the relationship between terrorism and economic growth using yearly data from Nigeria for the years 1999–2022, utilizing quantile and ordinary least square regression approaches. According to the results of empirical study included in this paper, terrorist attacks greatly offset economic growth. In Nigeria, an effective number of expected years of schooling results in a comparatively significant rise in GDP.

There are several policy implications related to this work. In order to end internal conflict, the government is using military force to combat terrorists within the nation. Nevertheless, budgetary funds should be set aside for socioeconomic development in areas affected by war in order to address the underlying causes of terrorism, which include injustice, poverty, unemployment, and income inequality. By raising the opportunity cost of terrorism, this will reduce it (Frey & Luechinger, 2003). This is because military actions, which raise the material costs of terrorism, are ultimately ineffective (Feridun & Shahbaz, 2010). Additionally, the government needs to create international policy to put a stop to external conflicts with neighboring nations.

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