CHAPTER TWENTY TWO

INVESTIGATING THE DYNAMIC LINKS AMONG INSECURITY, TOURISM AND ECONOMIC GROWTH IN NIGERIA

David Terfa Akighir[1] & Erdoo Akighir[2]
[1]*Department of Economics, Benue State University, Makurdi*
2 Department of Religion and Cultural Studies, Benue State University, Makurdi
Email: akighirdavidterfa@gmail.com

Abstract

Nigeria has vast tourism and cultural heritage potential, and at the same time, the country is ranked the 8th most terrorist country in the world. This paper, therefore, has investigated the dynamic links among insecurity, tourism and economic growth in Nigeria. The study employed the Structural Vector Autoregressive (SVAR) model using quarterly time series data from 2010Q1 to 2021Q4. Findings revealed that, insecurity has negatively impacted economic growth indirectly and directly. Indirectly, it negatively affects tourism activities which in turn affects Gross Domestic Product (GDP), and positively it directly impacts GDP negatively. The paper recommended that to mitigate the negative effects of insecurity on tourism and GDP, concerted efforts must be made by the government at all levels to arrest the rising trend of insecurity in the country. Also, stakeholders, community and religious leaders must collaborate to arrest the insecurity situation in Nigeria. Finally, the tourism and cultural heritage potentials of the country must be harnessed by improving the state of infrastructure amongst others.

Keywords: Boko Haram, Dynamic theory of insecurity, Economic Growth, Insecurity, Global Terrorism Index, Granger Causality, Structural Vector Autoregressive, Tourism, Tourism-Led Growth Hypothesis,

Introduction

The tourism-led growth hypothesis posits that tourism development propels the economic growth of countries. This hypothesis presupposes that harnessing the tourist potential of an economy can drive the growth process of such an economy. Many empirical studies have investigated

and proven this position. For instance, earlier studies (Asian, 2016; Benkrainen *et al*., 2020; Dogru and Bulut, 2018; Liu, 2018; and Shahzad *et al*., 2017) have empirically established the positive impact of tourism on economic growth in both developed and developing countries such as France, Mexico, Spain, Italy, Germany, Russia, Turkey, China, the United Kingdom, the United States, amidst others.

It is in recognition of the growth potentials of tourism and cultural heritage that the United Nations' Sustainable Development Goals (SDGs) numbers 8, 12 and 14 have identified sustainable tourism development as a potent tool for sustainable economic growth, employment creation and consumption by 2030 [United Nations Development Programme (UNDP), (2021)].

Nigeria has enormous tourism and cultural heritage potential, if fully developed can drive its economic growth and development process just like other countries such as Morocco, Egypt, England, and Poland that have used the tourism and culture sector to boost their economies. Regrettably, however, with these vast tourism and cultural heritage potentials and the National Tourism Policy (NTP) which was put in place to enhance the performance of the tourism sector, the sector's performance is yet to achieve the desired level of sustainable performance.

The report of the Statista Research Department (2021) revealed that tourism and travel in Nigeria accounted for 4.4 per cent of GDP in 2019, and the contribution declined to 2.8 per cent in 2020. For employment, the report showed that in 2019, the tourism sector provided 3.3 million jobs and 2.6 million jobs in 2020, representing a 23 per cent decline. In terms of employment as a per cent of GDP, the sector contributed 4.8 per cent in 2019. The report further unraveled that the contribution of tourism to employment generation as a per cent of GDP oscillated between a low value of 3.6 per cent in 2011 and an all high value of 6.4 per cent in 2008 and that it has maintained an average value of 4.6 per cent between the period of 2000 and 2019.

The above indicators have suggested that the tourist potentials of the Nigerian economy are yet to be optimally harnessed. Some scholars have ascribed this sub-optimal performance of the tourism sector in Nigeria to

some militating factors. According to Ezenagu (2018), the challenges of the tourism sector in Nigeria include insecurity, poor management of tourist attractions, lack of functional and quality medical/health care facilities, poor image and perception of Nigeria by foreigners and poor infrastructural facilities like roads and electricity among other challenges.

Ezenagu (2018) opined that of all these challenges, insecurity is seen as a biggest challenge of tourism in Nigeria. This consideration is because Nigeria has been ranked 8th position in world terrorism [Institute of Economic and Peace (IEP), (2023)]. The report indicated that the terrorism index for Nigeria decreased from 8.23 points in 2021 to 8.09 points in 2022. Yet, this suggests a high risk of insecurity and vulnerability to insecurity threats in the country since cases of Boko Haram, kidnapping, and armed robbery among others are increasingly recorded across Nigeria. Given this high level of insecurity in the country, there are tendencies that most tourists would not want to visit such a country if their lives were not secured.

Again, empirical contestations exist in literature as the nexus between insecurity and tourism in the empirical literature is not conclusive. There are two strands of arguments regarding the relationship between insecurity and tourism. The first is that insecurity does not affect tourism in the short and long-run (Liu & Pratt, 2017; Santana-Gallego & Fourie, 2020). The second strand of the conclusion is that insecurity has a negative effect on tourism in an economy (Ajibola, 2016; Merza, 2016; Andres-Rosale *et al*., 2018; Jamirade, 2021).

Predicated upon this inconclusiveness, the fundamental questions that arise are: What is the effect of insecurity on tourism in Nigeria? And how does the effect of insecurity on tourism affect economic growth in Nigeria? Answering these questions is the thrust of this study. Therefore, the objective of this paper is to investigate the dynamic links among insecurity, tourism and economic growth in Nigeria. Studying the nexus between insecurity, tourism, and economic growth in Nigeria has profound policy implications for the Nigerian economy especially, now that the country is faced with myriad insecurity challenges at the same time. President Tinubu's administration has created the Ministry of 'Blue Economy' with a particular focus on coastal tourism as a catalyst for

sustainable economic diversification of the Nigerian economy. Because this, studying these dynamic links would provide useful insights into the intertemporal dynamics of insecurity, tourism and economic growth in Nigeria. This would provide policy toolkits for policy makers and stakeholders to arrest the rising insecurity challenges of the country, thereby allowing for optimal harnessing of the tourism potentials of the country for enhanced diversification and economic growth.

To this end, the paper is structured as follows after the introduction. Section two deals with the literature; Section three is on the methodology of the study; Section four presents the empirical results, and section five concludes the paper and presents policy recommendations.

Literature Review

Literature review is segmented into conceptual review, theoretical review and empirical literature.

Conceptual Review

This sub-section provides a conceptualization of the concepts of insecurity, tourism and economic growth. Insecurity is a multifaceted concept that has to do with the overall sense of uncertainty or anxiety about one's worth, abilities, skills, and values as a person; which suggests that one is at risk or in danger of something or someone [The American Psychological Association (APA), (2020)]. Similarly, Patterson (2021) defined insecurity as a common feeling of lack of confidence, anxiety and uncertainty by nearly most people in a given area which stems from numerous sources. Furthermore, Beland (2005) conceptualized insecurity as a state of fear or anxiety due to the absence of adequate protection by the constituted authority in an environment.

In this study, insecurity refers to the danger that is posed to one's life and property as a result of the activities of Boko Haram, banditry, kidnapping, armed robbery, militant activities, armed herdsmen and other criminal activities that are inimical to economic, social, religious, and political as well as the well-being of the people in the country due to the absence of adequate protection.

Furthermore, tourism is conceptualized as the activities of persons travelling to and staying in places outside their usual environment for not more than one consecutive year for leisure, business and other purposes. It has to do with social, cultural and economic phenomena which make people move to countries or places outside their usual destinations for personal or business/professional purposes. These people are called visitors; and are classified as domestic tourists and inbound tourists [The United Nations World Tourism Organization (WNWTO), (2005)]. This study focuses on the inbound tourists' activities.

Finally, Gordon (2016) defined economic growth as the increase in the inflation-adjusted market value of the goods and services produced by an economy over time. Similarly, Ahuja (2014) conceptualized economic growth as sustained annual increases in an economy's real national income over a long period. Furthermore, Lefty (2012) defined economic growth as an increase in the capacity of an economy to produce goods and services, compared from one period of time to another. Economic growth in this study is measured by the Gross Domestic Product (GDP).

Theoretical Review

This study is on the dynamic theory of insecurity within the sociological framework and the Tourism-Led Growth Hypothesis (TLGH). The dynamic theory of insecurity attempts to analyze the precipitating factors of insecurity in a society from a sociological point of view. First, it identifies the rational perspective that sees cultural and religious differences as one of the major precipitating factors of insecurity in the society. Here, it considers religion and cultural diversities as drivers of insecurity in society. Second, the dynamic theory x-rays social exclusion as one of the causes of insecurity in a society (Osamba, 2000). The theory posits that social exclusion breeds poverty and unemployment in society; this situation creates socio-economic deprivation for the masses. This deprivation culminates in criminal activities such as armed robbery, kidnapping, banditry and other forms of social vices in the society, leading to a state of insecurity. Third, the theory views precipitating causes of insecurity in society from the political feud perspective. Here, the theory focuses on the politicization of social life in society, which leads to crime and a state of insecurity in society (Osamba, 2000).

Finally, the theory incorporates the conspiracy perspective that attempts to explore the tendencies and activities of the political and the elite class to conspire against the less privileged, which results in the feeling of marginalization by the masses which creates room for crime and insecurity in the society (Osamba, 2000). All these perspectives considered by the dynamic insecurity theory have attempted to explain the precipitating causes of insecurity in Nigeria. These causal factors have created an insecurity situation in Nigeria with its attendant negative consequences on the social, political, religious and economic activities.

On the other hand, the tourism-led growth hypothesis posits that international tourism positively affects the increase of long-run economic growth of countries through various channels. First, tourism activities generate foreign exchange earnings that contribute to procuring capital goods for production. Second, tourism stimulates other sectors and economic activities via direct, indirect and induced effects. Third, tourism contributes to employment creation, which leads to income and consumption that promote economic activities (Brida, 2010).

Thus, arising from the theoretical postulations of the dynamic theory of insecurity and the tourism-led growth hypothesis, if insecurity in a country is caused by the factors enunciated by the dynamic theory of insecurity, the insecurity situation would dampen the positive spillovers of tourism in an economy. Since tourists would avoid visiting ac ountry where their lives are at security risk, economic growth would be affected.

Empirical Literature

The empirical literature is segmented into two: the first group is on insecurity and tourism, and the second group is on tourism-economic growth nexus. First, various empirical works have examined the relationship between insecurity and tourism in developed and developing countries. Regarding this relationship, there are two strands of findings and conclusions. For instance, the study by Liu and Pratt (2017) and Santana-Gallego and Fourie (2020) used panel analysis and found no long and short-run effect of terrorism on international tourism demand in the countries investigated.

On the negative impact of insecurity on tourism, cross-country empirical literature has established a negative relationship between insecurity and tourism (Ajibola, 2016; Andres-Rosale *et al*., 2018; Jamirade, 2021; and Merza, 2016). All these studies have affirmed that insecurity has contributed to the slow growth of tourism in Mexico and Sweden, among others. These studies reiterated the fact that political crises, religious upheavals, ethnic riots, banditry, kidnapping for ransom, and social and economic instability are some of the factors that mitigate the contribution of the tourism sector to the economic growth of these economies.

Furthermore, studies by Asongu *et al*. (2018), Asongu *et al*. (2019), Buigut and Amendah (2016), Buigut (2018), Harb and Bassil (2019), Imbeah and Bujdoso (2019), Hamaeneh and Jerabek (2018), Imbeah *et al*. (2020), Masinde and Buigut (2018), Neumayer and Plumper (2016), have found that insecurity has negative and statistically significant effect on international tourism arrivals in different countries investigated, both at country-level studies and panel studies. These findings imply that tourists who feel unsafe or threatened at a particular destination are not likely to return to such places and may not recommend such destinations to other potential tourists.

Regarding the nexus between tourism and economic growth, Benkrainen *et al* (2020) employed a quantile autoregressive distributed lag model. They found a non-linear positive relationship between tourism development and economic growth in France, Mexico, Spain and Italy. Similarly, the study by Dogru and Bulut (2018) found bidirectional causality between tourism development and economic growth in seven European countries. Furthermore, Liu and Song (2018) employed quantile regression models, autoregressive distributed lag model and heterogeneity causality test and found a causal relationship between tourism development and economic growth in Mediterranean countries. Also, Asian (2016) found a positive long-run relationship between tourism variables and economic growth in Turkey. These findings suggest that tourism development has a positive impact on the economic growth of economies. The results corroborate the postulations of the tourism-led growth hypothesis.

In Nigeria, empirical studies such as Akighir and Ateata (2017), Clement and Abidemi (2020), Nathaniel and Olaife (2021) and Oguchi and Luo (2021) have found that tourism contributes positively to economic growth in Nigeria. This current study differs from previous studies in that it has attempted to analyze the intertemporal dynamics of insecurity, tourism arrival and economic growth in Nigeria in a single framework.

Methodology of the Study

The study has used quarterly time series data from 2010Q1 to 2021Q4 for the investigation. The data is from the Statistical Bulletins of the National Bureau of Statistics (NBS), Central Bank of Nigeria (CBN), Institute of Economics and Peace (IEP) and World Tourism Organization websites.

To model the dynamic links among insecurity, tourism and economic growth in Nigeria, the Structural Vector Autoregressive (SVAR) model was specified. SVAR is the most appropriate technique for this study because it can explain the intertemporal dynamics among the variables and its ability to trace the pass-through effect of insecurity to GDP through tourism.

The generic specification of the (SVAR) model is given as:

$$A_O Z_t = A_1 Z_{t-1} + \varepsilon_1 \quad 1$$

Where A_O = n x n matrix of contemporaneous effects of endogenous parameters

Z_t = n x 1 column vector matrix of estimable endogenous variables,

A_1 = n x n matrix of lagged estimable endogenous variables,

Z_{t-1} = n x 1 column vector matrix of lagged estimable endogenous variables, and

ε_{it} = n x 1 column vector of error term in the system.

The calibration of the Structural Vector Autoregressive (SVAR) model for this study is on the theoretical postulation of the dynamic theory of insecurity and tourism-led growth hypothesis. The dynamic theory of insecurity identifies the causal factors of insecurity in society. These

factors are cultural and religious differences, social exclusion, political feuds and conspiracy by politicians and the elites. In Nigeria, all these factors have explained the immediate and remote causes of insecurity and the state of insecurity in the country, which has potentially negative consequences on tourism activities in Nigeria. This is predicated on the premise that insecurity may be one of the severe challenges of tourism since no visitor would want to visit a country where they are not secured. On the other hand, the tourism led-growth hypothesis has postulated that well harnessed tourism potentials tend to increase the economic growth of countries.

Based on the foregoing, it is expected that an increase in insecurity will reduce tourism activities, and this will affect economic growth. Thus, this transmission is as follows:

$$Ins \longrightarrow Tou \longrightarrow Gdp$$

Where Ins is insecurity which is measured as the number of attacks/deaths due to Boko Haram, Kidnapping and armed robbery, Tou is tourism measured as the total number of inbound tourist arrivals, and Gdp is economic growth proxy by gross domestic product.

Transposing the transmission stated above yields:

$$Gdp_t = f(Gdp_{t-1}, Tou_{t-1}, Ins_{t-1}, Tou_t, Ins_t) \quad \text{-} \qquad \text{-(2)}$$

$$Tou_t = f(Gdp_{t-1}, Tou_{t-1}, Ins_{t-1}, Gdp_t, Isn_t) \quad \text{-} \qquad \text{-(3)}$$

$$Isn_t = f(Gdp_{t-1}, Tou_{t-1}, Ins_{t-1}, Gdp_t, Tou_t) \quad \text{-} \qquad \text{-(4)}$$

The exposition of the normalized SVAR (1) system of equations is expressed as:

$$Gdp_t = \alpha_{11}^1 Gdp_{t-1} + \alpha_{12}^1 Tou_{t-1} + \alpha_{13}^1 Ins_{t-1} + \alpha_{12}^0 Tou_t + \alpha_{13}^0 Isn_t + \varepsilon_{1t} \text{ -}$$
$$\text{- - - - - - - -(5)}$$

$$Tou_t = \alpha_{21}^1 Gdp_{t-1} + \alpha_{22}^1 Tou_{t-1} + \alpha_{23}^1 Isn_{t-1} + \alpha_{21}^0 Tou_t + \alpha_{23}^0 Isn_t + \varepsilon_{2t}$$
$$\text{- - - - - - - -(6)}$$

$$Ins_t = \alpha_{31}^1 Gdp_{t-1} + \alpha_{32}^1 Tou_{t-1} + \alpha_{33}^1 Ins_{t-1} + \alpha_{31}^0 Gdp_t + \alpha_{32}^0 Tou_t + \varepsilon_{3t}$$

- - - - - - - -(7)

Collecting the contemporaneous effects to the Left Hand Side (LHS) yields:

$$Gdp_t - \alpha_{12}^0 Tou_t - \alpha_{13}^0 Ins_t = \alpha_{11}^1 Gdp_{t-1} + \alpha_{12}^1 Tou_{t-1} + \alpha_{13}^1 Ins_{t-1} + \varepsilon_{1t}$$

- - - - - - - -(8)

$$-\alpha_{21}^0 Gdp_t + Tou_t - \alpha_{23}^0 Ins_t = \alpha_{21}^1 Gdp_{t-1} + \alpha_{22}^1 Tou_{t-1} + \alpha_{23}^1 Ins_{t-1} + \varepsilon_{2t}$$

- - - - - - - (9)

$$-\alpha_{31}^0 Gdp_t - \alpha_{32}^0 Tou_t + Ins_t = \alpha_{31}^1 Gdp_{t-1} + \alpha_{32}^1 Tou_{t-1} + \alpha_{33}^1 Ins_{t-1} + \varepsilon_{3t}$$

- - - - - - - -(10)

Equation (8) to (10) is now presented in matrix form as follows:

$$\begin{bmatrix} 1-\alpha_{12}^0-\alpha_{13}^0 \\ -\alpha_{21}^0 1-\alpha_{23}^0 \\ -\alpha_{31}^0-\alpha_{32}^0 1 \end{bmatrix} \begin{bmatrix} Gdp_t \\ Tou_t \\ Ins_t \end{bmatrix} = \begin{bmatrix} \alpha_{11}^1\alpha_{12}^1\alpha_{13}^1 \\ \alpha_{21}^1\alpha_{22}^1\alpha_{23}^1 \\ \alpha_{31}^1\alpha_{32}^1\alpha_{33}^1 \end{bmatrix} \begin{bmatrix} Gdp_{t-1} \\ Tou_{t-1} \\ Ins_{t-1} \end{bmatrix} + \begin{bmatrix} \varepsilon_{1t} \\ \varepsilon_{2t} \\ \varepsilon_{3t} \end{bmatrix} - \qquad (11)$$

That is, $A_O Z_t = A_1 Z_{t-1} + \varepsilon_1$ (12)

Where A_O = 3 x 3 matrix of contemporaneous effects of endogenous parameters

Z_t = 3 x 1 column vector matrix of estimable endogenous variables,

A_1 = 3 x 3 matrix of lagged estimable endogenous variables,

Z_{t-1} = 3 x 1 column vector matrix of lagged estimable endogenous variables, and

ε_{it} = 3 x 1 column vector of error term in the system.

Equation 11 is an over-parameterized model which cannot be estimated using SVAR. However, certain restrictions are imposed on some parameters of the A_O matrix in order to overcome the problem of identification in SVAR. Following the recursive approach, restrictions

were imposed on the upper elements above the matrix diagonal to zero as follows.

$$-\alpha_{12}^{0} = -\alpha_{13}^{0} = -\alpha_{23}^{0} = 0$$

Given the restrictions, the parsimonious form of the SVAR is now presented as:

$$A_0 = \begin{bmatrix} 1 & 0 & 0 \\ -\propto_{21}^{0} & 1 & 0 \\ -\propto_{31}^{0} & -\propto_{32}^{0} & 1 \end{bmatrix} \begin{bmatrix} Gdp_t \\ Tou_t \\ Ins_t \end{bmatrix} = \begin{bmatrix} \varepsilon_{1t} \\ \varepsilon_{2t} \\ \varepsilon_{3t} \end{bmatrix} - \qquad \text{-(13)}$$

Where $\varepsilon_t = \beta\eta_t$, and

$$\beta = \begin{bmatrix} \delta_1^2 & 0 & 0 \\ 0 & \delta_2^2 & 0 \\ 0 & 0 & \delta_3^2 \end{bmatrix} = \text{Unit Variance i.e, } Var(\eta_t) = 1$$

$$A_0 = \begin{bmatrix} 1 & 0 & 0 \\ -\alpha_{21}^{0} & 1 & 0 \\ -\alpha_{31}^{0} & -\alpha_{32}^{0} & 1 \end{bmatrix} \begin{bmatrix} Gdp_t \\ Tou_t \\ Ins_t \end{bmatrix} = \begin{bmatrix} \delta_1^2 Gdp & 0 & 0 \\ 0 & \delta_2^2 Tou & 0 \\ 0 & 0 & \delta_3^2 Ins \end{bmatrix} \begin{bmatrix} \mu_t^{Gdp} \\ \mu_t^{Tou} \\ \mu_t^{Ins} \end{bmatrix} \text{-.- - --(14)}$$

This means that the normalized SVAR of the form $A_O Z_t = A_1 Z_{t-1} + \varepsilon_t$ reduces to $A_O e_t = \beta\eta_t$. But $\beta\eta_t = \beta\mu_t$ hence, the baseline for estimable SVAR model is specified in the reduced form as:

$$A_O e_t = \beta\mu_t \qquad \text{- - - - - - - (15)}$$

Where A_O = matrix of long-run contemporaneous effects

e_t = column vector matrix of error for the respective variables

β = matrix of structural shocks in the model, and

μ_t = column vector of structural shocks in the model.

Therefore, the 'S' matrix is specified as follows:

$$e_t = A_O \beta\mu_t = \begin{bmatrix} e_t Gdp \\ e_t Tou \\ e_t Ins \end{bmatrix} = \begin{bmatrix} 1 & 0 & 0 \\ -\alpha_{21}^{0} & 1 & 0 \\ -\alpha_{31}^{0} & -\alpha_{32}^{0} & 1 \end{bmatrix} \begin{bmatrix} \mu_t^{Gdp} \\ \mu_t^{Tou} \\ \mu_t^{Ins} \end{bmatrix} \qquad (16)$$

Equation (16) denotes the initial impact of shocks in the Structural Vector Autoregressive model. Furthermore, the impulse response functions and the forecast error variance decompositions are used to determine the final impact of shocks in the specified SVAR model.

Empirical Results

In analyzing the data, first, the descriptive properties of the series were computed and presented in Table 2.

Table 2: Descriptive Statistics of the Variables

Statistics	TOU	INS	GDP
Mean	3,825,818.00	395.00	16,342.57
Maximum	7,705,750.00	653.00	19,550.15
Minimum	1,326,688.00	102.00	12,583.48
Skewness	-0.004	-0.15	-0.15
Kurtosis	2.997	2.62	2.40
Jarque-Bera	1.845	0.99	0.81
Probability	0.397	0.61	0.67
Observations	48	48	48

Source: Authors' Computations using E-views 10

Table 2 shows the descriptive statistics of the variables used in the analysis from 2010Q1 to 2021Q4, representing 48 observations. Insecurity has a mean value of 395 attacks/deaths due to activities of Boko Haram, Kidnapping and armed robbery in Nigeria. It has a maximum value of 653 attacks/deaths, traced to 2020Q2. This period corresponds to the height of insecurity in the country. That is post-2019 elections, the period when Boko Haram, kidnapping and armed robbery had assumed dangerous dimensions in the country. During this period, Boko Haram and kidnapping became the major security threats in the country. Many people were, kidnapped ranging from students, business people, farmers, lecturers and foreigners in Nigeria for ransom. Insecurity has a minimum value of 102 attacks/deaths, which coincided with 2011Q2. During this period, Boko Haram was the major security threat in the country; however, its activities were at a low elbow in selected northern parts of the country.

Furthermore, the table reveals that inbound tourists' arrivals have a mean value of 3,825,818 arrivals with a maximum value of 7,705,750 arrivals

traced to 2010Q1. During this period, the country witnessed a relatively stable security situation as Boko Haram activities were found in a few places in the country. In 2010, the Global Terrorism Index for Nigeria was 6.23%, relatively high, but tourist could still visit Nigeria. Tourist arrivals had a minimum value of 1,326,688, which is traceable to 2020Q2; this period corresponded with the peak period of insecurity in the country when Boko Haram, kidnapping and armed robbery had taken dangerous dimensions.

Gross Domestic Product (GDP), which is the measure of economic growth, has a mean value of 16,342.57 billion naira with a maximum value of 19,550.15 billion naira, which corresponds with 2018Q4 and a minimum value of 12,583.40 billion naira in 2010Q1.

Also, the table showed the skewness statistics that measure the sideways distribution of the data. The skewness indicated that, all the variables are slightly skewed to the left since all the values are less than zero. Again, the Kurtosis values, which measure the normal peak distribution of the data set, have indicated that all the variables are flat-topped; that is, platokurtic since the kurtosis values are all less than 3. The Jarque-Bera statistic, which combines both the skewness and the kurtosis to test the null hypothesis of the normality of the series, has indicated that all the series are normally distributed since all the probability values are greater than the 0.05 cutoff threshold. The implication is that all the series used in this analysis are normally distributed. In order to maintain a uniform unit of measurement among the series, the series was transformed using the logarithm transformation technique before onward estimation.

Before the series were estimated, the unit root test was performed using the Augmented Dickey-Fuller (ADF) test. The results are presented in Table 3.

Table 3: Unit Root Test

Variable	Level	Prob. Value	First Difference	Critical (5%)	Values	Prob. Values
Gdp	-1.6806	0.4333	-14.0251	-2.9369		0.0000

Tou	-2.3994	0.1482	-2.4655	-1.9489	0.0316
Ins	-2.4391	0.1377	-11.0236	-2.9350	0.0000

Source: Authors Computation using Eviews

The results in Table 3 showed that all the variables were not stationary at levels, but all the variables became stationary after differencing once. That is, all the variables are integrated of order one [I(1)] since the absolute values of the computed ADF for all the variables are greater than the absolute critical values. Also, the associated probability values are less than the cutoff threshold 0.05. This led to the rejection of the null hypothesis of the variables having unit roots and acceptance of the alternative hypothesis of no unit root among the series. The implication is that the series has a mean reverting ability, which suggests that any shock to the series will fade away with time.

Having ascertained that the variables are of I(1), the optimal lag length selection criteria were estimated to determine the appropriate lag order for the estimation of the SVAR. The results are in Table 4.

Table 4: Optimal Lag Selection Criteria

Lag	LogL	LR	FPE	AIC	SC	HQ
0	92.98119	NA	2.77e-06	-4.284819	-4.160699	-4.239324
1	185.6330	167.6556	5.16e-08	-8.268237	-7.771760	-8.086258
2	252.3014	111.1141*	3.34e-09*	-11.01435*	-10.14552*	-10.69589*

*Denotes 5% level of significance

Source: Authors' Computations using Eviews

The results in Table 4 have revealed that all the criteria, that is, sequential modified LR test statistic, Final prediction error (FPE), Akaike information criterion (AIC), Schwarz information criterion (SC), and

Hannan-Quinn information criterion (HQ) have indicated that the optimal lag for the SVAR is lag 2.

Furthermore, causality among the variables was tested using the pairwise Granger causality test, and the results are in Table 5.

Table 5: Pairwise Granger Causality Test

Null Hypothesis:	Observations	F-Statistic	Prob.
INS does not Granger Cause TOU	48	4.26750	0.0135
TOU does not Granger Cause INS		2.08532	0.1386
GDP does not Granger Cause TOU	48	0.37185	0.6920
TOU does not Granger Cause GDP		5.55508	0.0047
GDP does not Granger Cause INS	48	0.39174	0.7194
INS does not Granger Cause GDP		8.39633	0.0010

Source: Authors' Computations using E-views 10

The results in Table 5 have revealed a one-way causation between insecurity and tourism in Nigeria. That is, causation runs from insecurity to tourism. This suggests that insecurity can restrict the inflows of inbound tourist arrivals in Nigeria. This finding is in line with the findings of Jamirade (2021), Andres-Rosale *et al*. (2018), Imbeah and Bujdoso (2019), Imbeah, Khademi-Vidra and Bujdoso (2020), Asongu, Nnanna, Blekpe, Acha-Anyi (2018), Masinde and Buigut (2018), Neumayer and Plumper (2016), Asongu, Uduji and Okolo-Obasi (2019) who found that insecurity has negative and statistically significant effect on international tourism arrivals. This may be ascribed to the fact that when tourists feel insecure in a country as a result of security threats, they would not want to visit such a country.

Also, the table has revealed a one-way causation between tourism and economic growth in Nigeria. That is, causation runs from tourism to economic growth. This suggests that increasing tourism activities would increase economic growth in Nigeria. This finding corroborates the postulations of the tourism led-hypothesis and empirical findings of

Oguchi and Luo (2021); Nathaniel and Olaife (2021), Clement and Abidemi (2020) and Akighir and Ateata (2017) have found that tourism contributes positively to economic growth in Nigeria. Finally, the Granger causality test results have shown that there exists a one-way causation between insecurity and economic growth in Nigeria. That is, causation runs from insecurity to economic growth.

Given the uniform level of integration of the variables, that is, I(1), the Johansen co-integration approach was used to determine whether or not a long-run relationship exists among the variables. The results of Trace and maximum Eigenvalue statistics are presented in Tables 6 and 7, respectively.

Table 6: Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
r = 0*	0.414218	39.81490	29.79707	0.0025
r ≤ 1*	0.248940	17.88779	15.49471	0.0214
r ≤ 2*	0.139307	6.150734	3.841466	0.0131

Trace test indicates 3 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Source: Authors' Computations using Eviews

Table 6 reveals three cointegrating equations since all three trace statistic values are greater than all the associated critical values at 5% level significance. Also, all the corresponding probability values are lower than the cutoff threshold 0.05. This led to rejecting of the null hypothesis of no cointegration among the series.

Table 7: Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	Critical Value	0.05 Prob.**
r = 0 *	0.414218	21.92711	21.13162	0.0386
r ≤ 1	0.248940	11.73706	14.26460	0.1209

r ≤ 2 *	0.139307	6.150734	3.841466	0.0131

Max-eigenvalue test indicates 2 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Source: Authors' Computations using Eviews

Similarly, Table 7 has indicated that there are two cointegrating equations since the Max-Eigen statistic for r = 0 and r ≤ 2 are greater than the corresponding critical values at 5% level significance. Also, the associated probability values for r = 0 and r ≤ 2 are lower than the cutoff threshold of 0.05, lead to the rejection of the null hypothesis of no cointegration among the series.

Thus, given that both the Trace and Maximum Eigen statistics have indicated the existence of cointegration, it implies a long-run relationship between insecurity, tourism and economic growth in Nigeria. This means that if there are short-run disequilibria among the insecurity, tourism and economic growth in Nigeria, these variables will converge in the long-run.

Based on this, the contemporaneous SVAR estimates were computed to examine the contemporaneous effect of insecurity on economic growth through tourism in Nigeria, and the estimates are in Table 8.

Table 8: The Contemporaneous Matrix

	Gdp	**Tou**	**Ins**
Gdp	1		
Tou	0.1599	1	
Ins	-0.5034*	-0.264*	1

Source: Authors' Computations using E-views 10

*Denotes 5% level of Significance

Table 8 shows the contemporaneous effect of insecurity, tourism and economic growth in Nigeria. The table reveals an inverse relationship between insecurity and tourism which is statistically significant at a 5% significance level. That is, a 1% contemporaneous increase in the number of attacks/deaths due to the activities of Boko Haram, Kidnapping, and armed robbery activities will contemporaneously reduce the number of tourist arrivals in Nigeria by 0.264%. This negative relationship attests to the fact that tourists experience or hear of ongoing activities of Boko

Haram, cases of Kidnapping and armed robbery in Nigeria. They reduce their visits to Nigeria for tourism activities. This finding is consistent with the findings of Asongu *et al*. (2019), Masinde and Buigut (2018), and Neumayer and Plumper (2016), who found that insecurity has a negative and statistically significant effect on international tourism arrivals. Again, the result corroborates the results of the Granger causality test, which indicated unidirectional causality between insecurity and tourism that runs from insecurity to tourism.

Also, the table shows a positive but statistically insignificant relationship between tourism and economic growth in Nigeria. This finding suggests that tourism does not exert any significant impact on the GDP of the Nigerian economy. This finding is at variance with the findings of empirical studies in Nigeria regarding the nexus between tourism and economic growth, such as Oguchi and Luo (2021), Nathaniel and Olaife (2021), Clement and Abidemi (2020) and Akighir and Ateata (2017) who found that tourism has positive and statistically significant on economic growth in Nigeria. The non-statistical significant effect of tourism on GDP in Nigeria, contrary to previous studies, may be due to the influence of insecurity on tourism. Previous studies did not examine contemporaneously the influence of insecurity on tourism as it affects GDP. Thus, the non-statistical significant relationship between tourism and economic growth in Nigeria may be attributed to the negative influence of insecurity on tourism in Nigeria, given the surge in the insecurity situation in the country.

Finally, the table has indicated the negative and statistically significant relationship between insecurity and economic growth in Nigeria, which shows that a 1% contemporaneous increase in insecurity will contemporaneously reduce economic growth in Nigeria by 0.50%, underscoring the direct effect of insecurity on GDP in Nigeria.

Diagnostic Tests

Before the impulse response and variance decomposition were analyzed, diagnostic tests were conducted to ascertain the reliability of the SVAR estimates for forecasting. The diagnostics tests are in Table 9.

Table 9: Diagnostic Tests

Type of Test	Test Statistics	Probability Values

VAR Residual Heteroskedasticity Test	Chi-Square (8.2945)	0.7617
VAR Residual Serial Correlation LM Test	Rao (0.3894)	F-Stat 0.1278

Source: Authors' Computation using E-views 10

Table 9 shows that the null hypothesis of homoscedasticity of the residual is accepted. That there is constant variance of the residuals. Also, it is evident from the table that the null hypothesis of no serial correlation is accepted. That is successive residuals of the SVAR are not correlated.

Impulse Response Analysis

Given the outcome of the diagnostic tests, the Impulse Response Functions (IRF) were estimated. Impulse response functions show the response of each variable in the system to shocks from the system variables. First, the IRF of tourism to insecurity is in Figure 1.

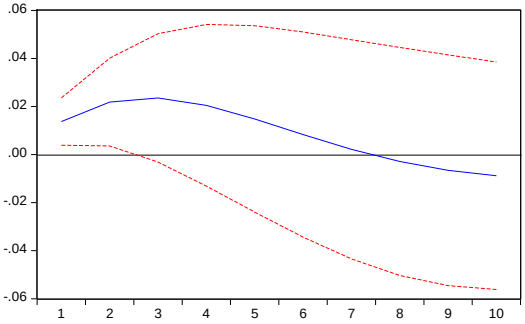

Figure 1: Response of TOU to Shocks in INS

Figure 1 shows the impulse response function of tourism to insecurity. It is evident from the figure that changes in insecurity will cause tourism to decline continuously, and the effect appears to be permanent. The implication is that as the number of attacks/deaths due to Boko Haram, Kidnapping and armed robbery increases, the number of tourist arrivals in Nigeria will continue to decline.

Again, the impulse response function of GDP to tourism is shown in Figure 2. The figure reveals that one standard deviation in tourism

precipitated by innovations in insecurity will cause GDP to decline, and the effect appears to be permanent.

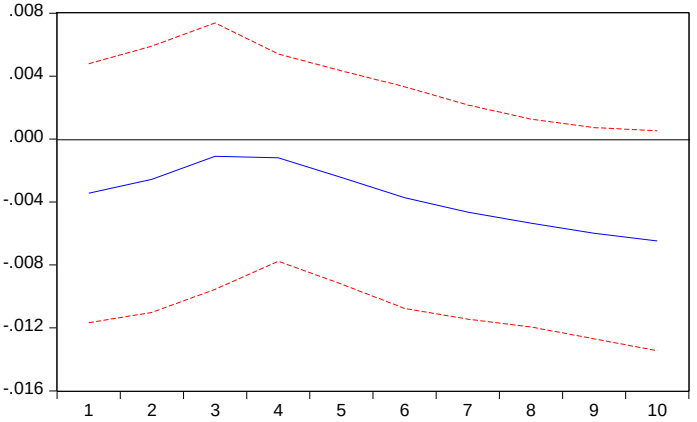

Figure 2: Response of GDP to Shocks in TOU

Furthermore, Figure 3 depicts the impulse response of GDP to innovations in insecurity. It shows that the response of GDP to innovations to insecurity is declining, and this appears to be temporary as the graph converges to zero in the 9th period.

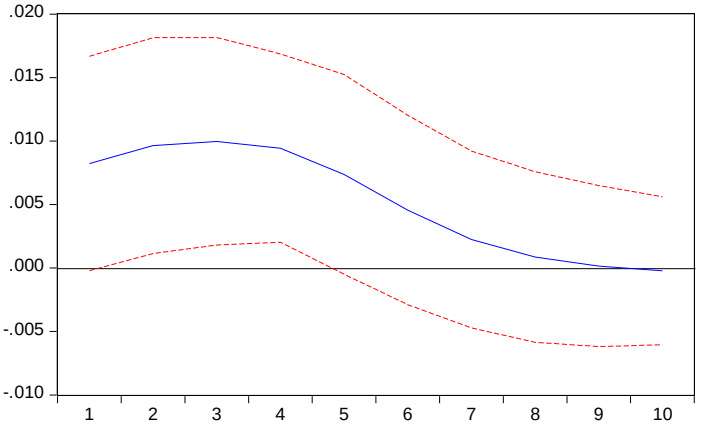

Figure 3: Response of GDP to Shocks in INS

Analysis of The Forecast Error Variance Decomposition

The Forecast Error Variance Decomposition (FEVD) in the SVAR system provides information about the proportion of movements in the system

variables due to its own shocks and the shocks due to other variables in the system. Table 10 presents the forecast error variance decomposition of tourism.

Table 10: Forecast Error Variance Decomposition of Tourism (TOU)

Period	S.E.	INS	TOU	GDP
1	0.033408	16.86691	83.13309	0.000000
2	0.063524	16.48744	83.12093	0.391632
3	0.090612	14.86528	84.38675	0.747969
4	0.113294	12.77722	86.47248	0.750297
5	0.131725	10.71361	88.68372	0.602675
6	0.146645	8.964930	90.54861	0.486461
7	0.158850	7.658935	91.90048	0.440585
8	0.169042	6.792326	92.74925	0.458419
9	0.177766	6.277840	93.19288	0.529279
10	0.185403	5.997426	93.36834	0.634230

Source: Authors' computations using E-views 10

The variance decomposition results in Table 10 revealed that own shocks of Tourism are dominant from the first quarter to the tenth period. It increased from 83.13% in the first quarter to 93.37% in the tenth, which suggests that insecurity and gross domestic product are the predictors of tourism in Nigeria. A unit change in insecurity accounts for about 16.87% of the forecast error variance of tourism in the first quarter, and the results appear to decrease significantly to 6.00% in the tenth quarter. Also, a unit change in GDP explains about 0.39% in the forecast error variance of tourism in the second quarter, and the results appear to increase gradually to 0.63% in the tenth quarter. The implication is that insecurity is a stronger predictor of tourism in Nigeria than GDP, which suggests that insecurity changes can precipitate significant changes in tourism activities in the country. The variance decomposition of GDP in Table 11.

Table 11: Forecast Error Variance Decomposition of GDP

Period	S.E.	INS	TOU	GDP
1	0.028005	8.628987	1.513544	89.85747
2	0.031880	15.79460	1.813978	82.39142
3	0.033599	23.03208	1.738690	75.22923
4	0.034975	28.53114	1.719967	69.74889
5	0.036139	30.87794	2.067996	67.05406
6	0.037077	30.84686	2.976876	66.17626
7	0.037508	30.49902	4.438230	65.06275
8	0.037898	29.92726	6.337195	63.73554

9	0.038368	29.19945	8.615740	62.18481
10	0.038915	28.38763	11.13937	60.47300

Source: Authors' computations using E-views 10

The variance decomposition results in Table 11 have shown that own shocks of GDP are dominant from the first quarter to the tenth period; however, it decreased from 89.86% in the first quarter to 60.47% in the tenth, which suggests that tourism and insecurity are the predictors of GDP in Nigeria. A unit change in tourism accounts for about 1.51% of the forecast error variance of GDP in the first quarter, and the results appear to increase significantly to 11.14% in the tenth quarter. Also, a unit change in insecurity can explain about 8.63% in the forecast error variance of GDP in the first quarter, and the results increase significantly to 28.39% in the tenth quarter. The implication is that insecurity and tourism are strong predictors of GDP in Nigeria, which suggests that changes in insecurity and tourism can precipitate significant changes in the GDP of the Nigerian economy.

Conclusion and Policy Recommendations

Based on the findings of this study, it concludes that the insecurity level in Nigeria is very high, and it has negatively impacted economic growth indirectly and directly. Indirectly, the study found that insecurity negatively affects tourism activities, which affects GDP. Directly, insecurity impacts GDP negatively. Thus, to mitigate the negative effect of insecurity on tourism and the growth of the Nigerian economy, the paper has made the following recommendations.

First, there should be a paradigm shift in crime control from a military-based to human-centreed approach, which requires that government at all levels should pragmatically tackle the twin issues of poverty and unemployment in the country. The Government should empower the youths to have sustainable employment, which will take the army of the unemployed away from their jobless status that makes them easily indulge in criminal activities.

Second, community policing should be encouraged in the country. State governments should employ a community-based approach to combat crime in the country. The existing community policing system in some states is risky as many recruited in the community police are criminals who, in most instances, conspire with other criminals to perpetrate crimes.

Local and State Government should embark upon proper scrutiny of personnel into the community police. should be embarked upon by local and state governments. In doing this, community and religious leaders should be involved in the recruitment process, and those employed should be properly remunerated to encourage them to discharge their duties faithfully.

Third, religious ecumenism should be pursued with more commitment than it has been done. Religion should be used as a potent tool for promoting peace and unity among the various ethnic groups and diverse religious groups. Religious dialogue should be vigorously pursued by the government and religious leaders in the country.

Finally, tourism should be promoted in the country more than in its present state. There should be infrastructural upgrades, and efforts should be made to tap other tourist potentials that have not been harnessed in the country.

References

Ajibola, Y.M. (2016). Performance assessment of tourism sector as a vital tool of economic growth in Nigeria, *International Journal of Academic Research in Business and Social Sciences,* 6 (10), 143-150.

Andres-Rosales R, Sanchez-Mitre L.A.Y. & Cruz, J. (2018). Insecurity and its impact on tourism in Guerrero: A spatial approach, 1999-2014, *Revista de Relaciones Internacionales, Estrategia y Seguridad,* 13(1), 147-162.

Asian, A. (2016). Does tourism cause growth? Evidence from Turkey, *Current Issues in Tourism* 19,1176-1184.

Asongu S.A., Nnnanna, J. Biekpe, N. *et al*., (2019). Contemporary drivers of global tourism: Evidence from terrorism and peace factors, *Journal of Tourism Marketing*, 36(3), 345-357.

Asongu S, Uduji, J. & Okolo-Obasi, E.N. (2019). Tourism and insecurity in the world, *International Review of Economics,* 66(4); 453-472.

Benkrainen, R, Lahian, A., Miloudi, A. & Shahbaz, M. (2020). A new look at tourism development and economic growth nexus: International evidence, *Tourism Economics,* 27 ((6), 1707-1735.

Blanchard, L. P. (2015). Nigeria's 2015 elections and the Boko Haram crisis, *Working paper No*. 5700, Congressional Research Services.

Brida, J.G. (2010). A literature review on tourism-led growth hypothesis, *Working papers* No. 17, Centre for North-South Economic Research.

Buigut, S. (2018). Effect of terrorism on demand for tourism in Kenya: A comparative analysis, *Tourism and Hospitality Research*, 18(1), 28-77.

Buigut, S & Amendah, D.D. (2016). Effect of terrorism on demand for tourism in Kenya, *Tourism Economics*, 22(5), 928-938.

Clement, A.U.I. & Abidemi C.A. (2020). Long run analysis of tourism and economic growth in Nigeria, *International Journal of Economic Policy in Emerging Economies,* 13(3), 286-301.

Dogru, T & Bulut, U. (2018). Is tourism an engine for economic recovery? Theory and empirical evidence, *Tourism Management*, 67, 425-434.

Ezenagu, N. (2018). Challenges of tourism in Nigeria: the case of religion, *African Journal of Hospitality, Tourism and Leisure,* 7(1),1-18.

Guanah, S.J. (2017). Potentials, problems and prognosis of culture and tourism in Nigeria's economy, in Ugola, C. *et al*., (Eds), *Cultural Rejuvenation, Theatre management and Performance Aesthetics. A Festchrift in honour of Mayiwa Awodiya*. Benin City: Head marker Publishers.

Hamarneh, I & Jerabek, P. (2018). The impact of security situation on tourism in the countries of the former Yugoslavia, *International Scientific Journal of Security and Future*, 2(3), 111-115.

Harb G. & Bassil, C. (2019). Terrorism and inbound tourism: Does immigration have a moderating effect? *Tourism Economics*, 26 (3), 500-518.

Imbeah, N. & Bujdoso, Z. (2017). Tourism Safety and security in the central region of Ghana: Overview and case study, *Ecocylces* .4 (2), 33-45.

Jamirade, D. (2021). Tourism: The missed opportunities for economic development in Nigeria, *Journal of African Studies and Development*, 13(1), 15-22.

Kranjnak, T. (2020). The effects of terrorism on tourism demand: a systematic review, *Tourism Economics*, 27(8), 1736-1758.

Liu, A. & Pratt, S. (2017). Tourism vulnerability and resilience to terrorism, *Tourism Management*, 6 (1), 404-417.

Liu, H. and Song, H. (2018). New evidence of dynamic links between tourism and economic growth based on mixed-frequency Granger causality tests, *Journal of Travel Research*, (57) 7, 899-907.

Merza, S. (2016). How security impacts tourism to low-income countries, *Independent project submitted for basic level Economic and Management Bachelors Programme Degree, University of Agricultural Sciences, Swedish.*

Masinde, B & Buigut, S. (2018). Effect of terrorism and travel warming in Kenyan tourism demand, *Tourism Analysis*, 23(2), 283-288.

Nathaniel O.O. & Olaife A.U. (2021). Tourism, globalization and economic growth in Nigeria. *African Journal of Economic Review* 11(2): 257-270.

Oguchi N .H. & Luo, F. (2021). Estimating the nexus of tourism on sustainable development goals in Nigeria, *Technium Social Sciences Journal*, 20(1); 751-771.

Patterson E (2021). Insecurity: definition, causes and seven ways to cope. Available at: www.choosingtherapy.com/insecurity (accessed 10 January 2022).

Ren, T., Can, M. & Paramati, S.R. (2019). The impact of tourist quality on economic development and environment: Evidence from Mediterranean countries, *Sustainability*, 11(1), 2296-2305.

Samba, J. (2000). The sociology of insecurity: Cattle rustling and banditry in Northern-Western Kenya, *AJCR, 2000/2.* African Centre for the study of insecurity.

Santana-Gallego, M. & Fourie, J. (2020). Tourism falls apart: How insecurity affects African tourism, *SAGE Journals* Available at: https://doi.org/10.1177/1354816620978128 (accessed 15 January 2022).

Shahzad S.J.H., Shahbaz, M., Ferrer, R. & Kumar, R.R. (2017). Tourism-led growth hypothesis in the top ten tourist destinations: New evidence using the quantile-on-quantile approach, *Tourism Management*, 60(1), 223-232.

Statista Research Department (2021). Number of jobs in travel and tourism sector in Nigeria in 2019 and 2020. Available at: https://www.statista.com/statistics/127680/total-contribution-of-travel-and-tourism-to-employment-in-nigeria (accessed 15 January 2022).

Statista Research Department (2021). Domestic and international travel spending in Nigeria, 2019-2020'. Available at: http://www.statista.com/statista/1276885/domestic-and-international-travel-spending-nigeria/ (accessed 11 January 2022).

United Nations' Development Programme (2021). Sustainable development goals integration. Available at: https://www.undp.org/sustainable-development-goals (accessed 11 January 2022).

World Bank (2021). Nigeria tourism statistics 1995-2022. Available at: https://www.macrotrends.net/countries/NGA/nigeria/tourism-statistics (accessed 12 January 2022).

World Tourism Organization (2021). Yearbook of tourism statistics: compendium of tourism statistics and date files. Available at: https://data.worldbank.org/indicator/ST.INT (accessed 15 January 2022).