Inclusive Growth in Tourism-led Growth Hypothesis: Evidence from Nigeria

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Abstract
This study investigates the direction of causality between tourism and inclusive growth in Nigeria using quarterly data between 1995Q1 and 2018Q4. The study uses four indicators of tourism; tourist arrivals, tourism receipts and expenditures, and a tourism activity index, generated with the Principal Component Analysis, from the first three indicators. The study employs the Toda-Yamamoto granger causality test. The results validate the tourism-led inclusive growth hypothesis using tourist arrivals and tourism activity index, while the neutrality hypothesis of no causality is accepted for inclusive growth and each of tourism receipts and expenditures. The findings have implications for policymakers in Nigeria. These include promoting tourism, by means of appropriate measures, in the economy in order to create jobs and reduce income inequality and poverty; putting in place measures to reduce corruption to avoid mismanagement of tourist receipts; and making sure that there is a necessary due process towards tourism expenditures.

Keywords: Inclusive Growth, Tourism, Tourism Activity Index, Toda-Yamamoto Granger Causality Test, Nigeria

JEL Classification Code: O10

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1.   Introduction

The Tourism industry, in recent times, has attracted a lot of investors into the host economy hanging on the fact that it serves as a source of generating income and foreign reserve, helps in creating job opportunities, and adds to the growth and development of an economy. The Nigerian government is not left out in this process as all efforts have been made to see to the expansion and promotion of tourism to become an economically viable industry from which the country can generate foreign reserve, create job opportunities, generate tax revenues, improve investment in physical capital, human capital, and technology among others (Shahzad, Shahbaz, Ferrer, and Kumar, 2017; Dogru and Sirakay-Turk, 201; Tugcu, 2014). In furtherance, the United Nations World Tourism Organisation (UNWTO) in 1998 argued that tourism is now one of the principal industries contributing to the socio-economic growth of many countries, Nigeria inclusive. According to Hampton, Jeyacheya, and Long (2018), "international tourism remains a policy favourite of many developing country governments as it is seen to drive economic growth". To support this fact, the UNWTO projects that total international tourist arrivals will grow by 3.3 per cent a year to reach 1.8 billion by 2030 (Shahzad *et al.,* 2017), while the domestic tourism in Nigeria is predicted to contribute N3.63 billion to the Nigerian gross domestic product (GDP) by the end of 2018 and the reason for this is not far-fetched.

In 1988, tourism came to limelight in Nigeria when the ruling military government promulgated a decree to establish the Nigeria Tourism Development Corporation (NTDC). After this, the Federal Ministry of Culture and Tourism was established and this strengthens the importance of tourism in the Nigerian economy. There are various tourism potentials in Nigeria which include waterfalls, mountains, hills, springs, lakes, caves, parks, festivals and carnivals. These potentials, according to Sharma (2018) stimulates economic growth, provides employment, and generate revenue for the government and these also have been responsible for tourist arrival, tourism receipts, and tourism expenditures. According to NBS (2017), tourism activities in Nigeria accounted for 34 percent of GDP and 20 per cent of employment in 2017. Specifically, the number of international arrivals in Nigeria and employment generated by the industry are expected to grow by 1.5 and 3.4 per cents, respectively, by the end of 2018 based on the analytical report of the World Travel and Tourism Council (WTTC) in 2017. On the other hand, evidence from most studies (see Bouzahzah and Menyari, 2013; Aratuo and Estienne, 2019) reveals that economic growth can also influence the growth of tourism in an economy. This is because improved economic growth means an increase in the demand for tourism, thus translating to increased tourism receipts and tourism expenditures.

Having established that there is a bi-directional relationship between tourism and economic growth, the question to ask is whether this growth is beneficial to all. This takes us to the concept of inclusive economic growth, simply, inclusive growth. As defined by the World Bank, "inclusive growth refers to pace and pattern of economic growth, which are interlinked and assessed together", while Organisation for Economic Cooperation and Development (OECD) defines inclusive growth as "economic growth that is shared fairly across society and creates opportunities for all". What this means is that inclusive growth is growth that will help in reducing poverty and income inequality since it ensures that the benefits of growth are equally distributed. In examining the link between tourism and inclusive growth, the former contributes to the latter in such a way that tourism allows for rural and urban development which, in turn, provides employment, reduces inequality and poverty among the rural and urban poor. According to OECD, "tourism policy

should ensure that it contributes to economic growth that is shared broadly across society and improves the well-being of citizens". This hinges on the fact that contributions of tourism to GDP, employment and service exports, on average, are 4.1, 5.9, and 21.3 per cents, respectively, in OECD countries.

In line with the above, the African Union's Agenda 2063, the structural transformation framework of the continent, sees tourism as a determining factor of inclusive growth, employment opportunities and wealth creation in Africa, Nigeria inclusive. Not to be left out in this discourse is the contribution of tourism as one of the important factors of regional integration and inclusive economic growth in Africa as contained in the Tourism Action Plan (TAP) that was developed by the New Partnership for Africa's Development (NEPAD) in 2004 (Office of the Special Adviser on Africa (OSAA, 2016). Statistically, in 2015, travel and tourism generated 9.1 million and 12.9 million direct and indirect jobs, respectively in Africa and this represents 8.1 per cent contribution to Africa's GDP, including Nigeria. In response to this, inclusive growth can as well promote tourism in the sense that equal distribution of income and poverty reduction will add to tourism demand and hence, leading to the growth of the industry.

By implication, there could be a unidirectional or bidirectional relationship between tourism growth and inclusive growth depending on the kind of relationship that exists between the duo as shown in figure 1. Vividly, tourist arrival, tourism receipts, and tourism expenditures are very important while carrying out any research on tourism and this calls for their inclusion in this present study**.**

In this context, the study aims at investigating the causal relationship between tourism and inclusive growth in Nigeria by employing Toda-Yamamoto Causality Test, using the three measures of tourism and also, using a tourism activity index that will be generated from the three measures with the help of a Principal Component Analysis (PCA).

This study, then, contributes to the existing knowledge by using Nigerian economy as a case study and also; by using all the three tourism indicators in separate models and a tourism activity index computed from the three variables by employing a Principal Component Analysis as used by Shahzad *et al.* (2017). This approach of tourism is against extant studies. The index is used because these three variables are highly positively correlated as an increase in tourist arrivals will increase both tourism receipts and expenditure (Shahzad *et al.*, 2017). Importantly, the originality of this present study hangs on the fact that the study uses inclusive growth in place of economic growth as used by most studies, Nigeria inclusive. The reason for using inclusive growth is seen in the high levels of unemployment, income inequality, and poverty that characterize the Nigerian economy, even in the face of rapid economic growth. The National Bureau of Statistics (2019) reported that the rate of unemployment in the third quarter of 2018 was 23.1 per cent and this is projected to be 33.5 per cent in 2020 if certain measures are not put into consideration. Also, Nigerian income inequality, as measured by Gini coefficient, in 2018 was put at 39 per cent, a considerably high level (Knoema, 2018), while 91.8 million out of about 196 million Nigerians, which constituted 46.8 per cent, live in extreme poverty as of 2018 (World Poverty Clock, 2018). According to the clock, about six people enter into extreme poverty every minute. Since the primary objective of the United Nations Sustainable Development Goals is to end by 2030 all

forms of poverty that centers around inclusive growth, then, its inclusion rather than economic growth, which dividends are not fairly distributed, is very crucial.

Apart from this introduction section, the remaining section of this paper is organized as follows. The immediate section centers on the findings from other studies and the originality of this study. Section 3 discusses the measurement of inclusive growth. Data, methodology and empirical results are presented in Section 4. To end this paper, Section 5 concludes the paper.
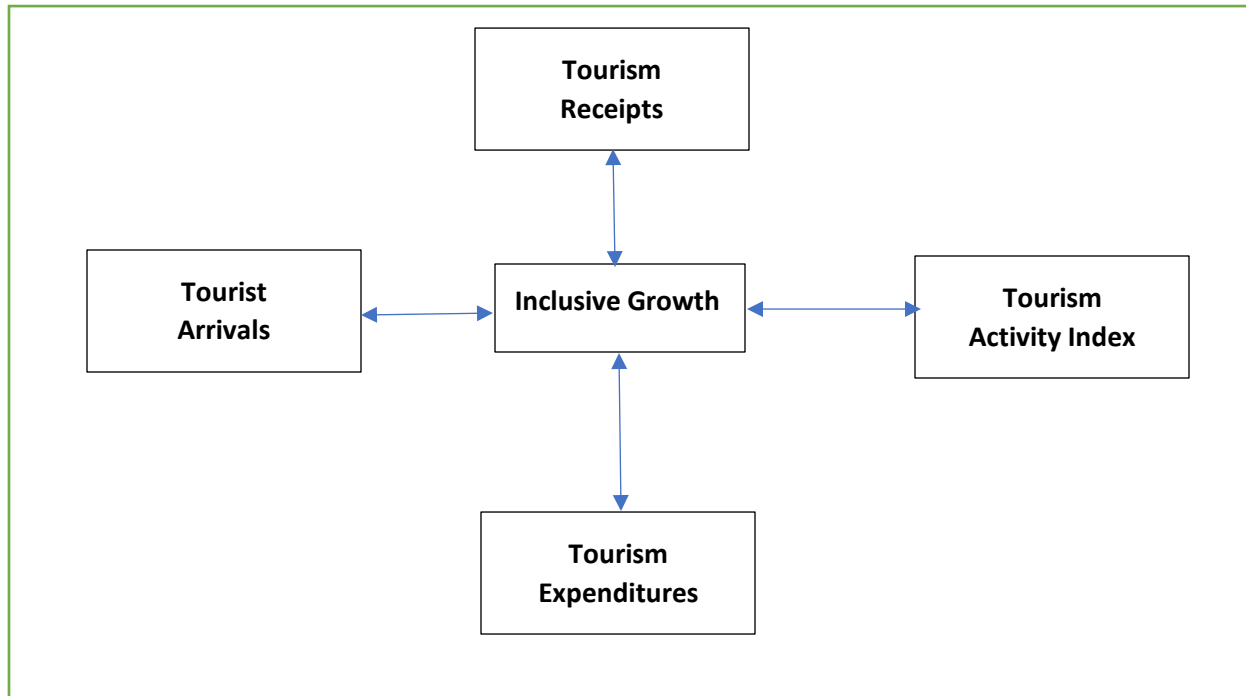

Figure 1: Causal Relationship between Tourism and Inclusive Growth
Source: Author's Compilation (2020)

2.   Literature Review

There are ample studies on the relationship that exists between tourism and economic growth both in developed and developing countries with the inclusion of the Nigerian economy. This relationship emanates from four strands of literature according to Dogru and Bulut (2017). These are the tourism-led growth hypothesis (TLGH), growth-led tourism (GLTH) hypothesis, feedback hypothesis, and neutrality hypothesis. From the TLGH, development in tourism will cause improvement in economic growth. In other words, tourism is seen as one of the key determinants of economic growth. This is because, according to Shahzad *et al.* (2017) and Dogru and Sirakay-Turk (2017), tourism helps in "creating job opportunities; generating tax revenues; stimulating investment in physical capital, human capital, and technology; enhancing the efficiency of host firms by increasing competition; and facilitating the exploitation of economies of scale" (Shahzad *et al.*, 2017; Dogru and Sirakay-Turk, 2017; Tugcu, 2014). The acceptance of this hypothesis aligns with the studies of Balaguer and Cantavella-Jorda (2002) in Spain, Lanza, Temple and Urga

(2003) in 13 OECD countries; Durbarry (2004) in Mauritius; Dritsakis (2004) in Greece; Ongan and Demiroz (2005) in Turkey; Gunduz and Hatemi (2005) for Turkish economy; Cortes-Jimenez & Pulina (2006) for Spanish and Italian economies; Fayissa, Nsiah, and Tadasse (2007) in Sub-Saharan Africa; Nowak, Sahli, and Cortes (2007) in Spain; Croes and Vanegas (2008) in Nicaragua; Lee and Chang (2008) in OECD, Latin America, and Africa; Brida, Carrera, and Risso (2008) for Mexican Economy; Kaplan and Celik (2008) in Cyprus; Po and Hang (2008) in European and Latin America; Proenca and Soukiazis (2008) for several southern European Countries; Chen and Wei (2009) in Taiwan; Zortuk (2009) in Turkey, Akinboade and Braimoh (2010) in South Africa; Belloumi (2010) in Tunisia; Brida, Lanzilotta, Lionetti, and Risso (2010) for the case of MERCOSUR; Brida and Monterubbia Nesi (2010) in Columbia; Katircioglu (2010) in Singapore; Mishra, Rout, and Mohapatra (2013) in India; Schubert, Brida, and Risso (2010) in Antigua and Barbuda; Kadir and Jusoff (2010) in Malaysia; Kartircioglu (2011) in Singapore; Kreishan (2011) in Jordan; Brida and Giuliani (2012) in sub national transfrontier economies; Dritsakis (2012) in in seven Mediterranean countries; Jalil, Mahmood, and Idrees (2013) in Pakistan; Al-mulali, Fereidouni, Lee, and Mohammed (2014) in Middle East countries; Brida, Lanzilotta, Pereyra, and Pizzolon (2015) for the case of MERCOSUR; Kum, Aslan and Gungor (2011) for the case of Next-11 countries; Ertugrul and Mangir (2015) in Turkey; Tang and Tan (2015) in Malaysia; Phiri (2016) in South Africa using tourist recepits and linear framework; Govdeli and Direkci (2017) in 34 OECD countries; Ohlan (2017) in India; Ribeiro and Wang (2020) in Sao Tome and Principe (STP); Shahzad *et al.* (2017) in top ten tourist destinations; Sharma (2018) in India; and Tabash (2017) in Palestine.

The second strand of literature supports the GLTH which states that growth in the overall economy will increase growth in tourism. This hangs on the fact that improved economic growth will increase the demand for tourism and vice-versa. Studies that validate the conservation hypothesis include Narayan (2004) in Fiji; Oh (2005) for Korean economy; Parrilla, Font, and Nadal (2207) in Spain; Payne and Mervar (2010) in Croatia; Matarrita-Cascante (2010) in Costa Rica; Lee (2012) in Singapore; Ivanov and Webster (2012) for a global analysis; Bouzahzah and Menyari (2013) in Morocco and Tunisia; Phiri (2016) in South Africa using tourist arrivals with the nonlinear framework; and Aratuo and Estienne (2019) using the United States' data.

Another strand of literature holds that there is feedback causality between tourism and economic growth. This implies that tourism activity and economic growth are interdependent, meaning that growth in tourism leads to economic growth and vice-versa. The findings of Katircioglu (2009a) in Malta; Ongan and Demiroz (2005) for Turkish economy; Kim, Chen, and Jang (2006) in Taiwan; Lee and Chien (2008) in Taiwan; Chen and Wei (2009) in South Korea; Narayan, Narayan, Prasad, and Prasda (2010) in Fiji, Tonga, Solomon Islands, and Papua New Guinea; Samimi, Sadeghi and Sadeghi (2011) in 20 developing countries; Seetanah (2011) for Island economies; Tang (2011) in Malaysia; Yazdi Salchi and Soheilzad (2017) in Iran; Tugcu (2014) in European and Asian countries; Phiri (2016) in South Africa using tourist recepits and nonlinear framework; Tang, Tiwari, and Shahbaz (2016); Wu, Liu, Hsiao and Huang (2016) in Asian and Australia countries; Dogru and Bulut (2017) in seven European countries; Perles-Ribes, Ramon-Rodriguez, Rubia and Moreno-Lzguiredo (2017) in Spain; and Shakouri, Yazdi, Nategian and Shikhrezaei (2017) in Asian countries support the feedback hypothesis. The last strand of literature

comes from the neutrality hypothesis which holds that there is no causal relationship between tourism development and economic growth. In other words, growth in tourism activity does not cause economic growth and vice-versa. The following studies agree with the neutrality hypothesis: Katircioglu (2009b) in Turkey; Tang and Jang (2009) in the United States; Ozturk and Acaravci (2009) in Turkey; Jackman and Lorde (2010) in Barbados; Georgantopoulos (2013) in India; Tugcu (2014) in African countries; and Phiri (2016) in South Africa using tourist arrivals with the nonlinear framework;

In examining the Nigerian economy, few studies have been carried out on the relationship between economic growth, not inclusive growth, and tourism. Among these studies are Ovat (2003), Bankole (2002), Abdulrahman, Muhammad, and Muhammad (2014), Yusuff and Akinde (2015), Agri, Acha, and Lucy (2016), and Akighir and Aaron (2017). The first three studies mentioned are empirical, while others employ econometric techniques to confirm the tourism-led growth hypothesis in Nigeria with tourist arrivals as a measure of tourism growth.

Summarily, there are limited studies on the tourism-inclusive growth nexus. Those studies (Jones, 2013, on Nepal; Hampton and Jeyacheya, 2013, on Seychelles; Butler and Rogerson, 2016, on South Africa; Hampton, Jeyacheya, and Long, 2018, on Vietnam) that use inclusive growth are empirical and none of them is on the Nigerian economy. Also, most of the studies on the nexus between tourism growth and economic growth use either one or two of the three tourism indicators, that is, tourist arrivals (Katircioglu, 2009; Gunduz-Hatemi, 2005; Chen, 2009; Zortuk, 2009; Ghartey, 2010 in Jamaica; Kim *et al.*, 2005; Jackman and Lorde, 2010; Phiri, 2016; Tang *et al.*, 2016); international tourism receipts (Balaguer and Cantavella-Jorda, 2002; Belloumi, 2010; Mishra, Rout, and Mohapatra, 2013; Akinboade and Braimoh, 2010; Aslan, 2013; Tugcu, 2014; Tang and Tan, 2013; Phiri, 2016; Wu *et al.*, 2016, Dogru and Bulut, 2017; Govdeli and Direkci, 2017; Ohlan, 2017; Perles-Ribes *et al.*, 2017; Shakouri *et al.*, 2017; Sharma, 2018) and international tourism expenditures (Brida. Carrera and Risso, 2008; Brida and Monterubbia Nesi, 2010; Schubert, Brida, and Risso, 2010; Georgantopoulos, 2013; Tugcu, 2014) as a proxy for tourism activity.

3. Measuring Inclusive Growth

To measure inclusive growth, two indicators have been identified in the literature; the social welfare function (Anand, Mishra, and Peiris, 2013) and social opportunity function (Ali and Son, 20017). The first indicator combines both economic growth and equity in the measurement of inclusive growth, while the second one is based on two factors; average opportunities available to the population and the distribution of these opportunities in the population (Ayinde and Yinusa, 2016). Following other studies (Ayinde and Yinusa, 2016), we employ GDP per person employed, as incorporated in the social opportunity function, to capture inclusive growth. This measure is adopted because it reflects participation in the economy and it serves as a measure of productive employment. In addition to its usefulness, inclusive growth is economic growth that will cause unemployment, income inequality and poverty to decline. So, when a person is employed in an economy, we expect that it will reduce the rate of unemployment which will, in turn, reduce the levels of income inequality and poverty in the economy. However, the study fails to adopt the

social welfare function measurement of inclusive growth because equity, as one of its measurements, cannot be properly combined with growth without losing its generality (Ayinde and Yinusa, 2016).

4.   Data, Methodology and Empirical Results

4.1   Data

Data on tourist arrivals (TAR), international tourism receipts (TRE) in current US$, international tourism expenditures (TEX) in current US$, as proxies for tourism and GDP per person employed in constant 2010 PPP US$ (ING), as a proxy for economic growth, spanning from 1995 to 2018 are used in this study. The data were gathered from the World Development Indicators in 2019. Importantly, a tourist activity index (TAI) is generated from TAR, TRE, and TEX using the PCA. The usage of TAI allows for a robustness check. All the variables of interest, except TAI, are in their natural logarithmic form to reduce non-normality and for easy interpretation. TAI is not transformed into a logarithmic form because it is an index generated with negative values. This study is limited in the sense that tourism data in Nigeria started in 1995. The implication is that all the data are decomposed into quarterly data (1995Q1 to 2018Q4) and this affords us the opportunity of using a time series estimation technique.

4.2   Methodology
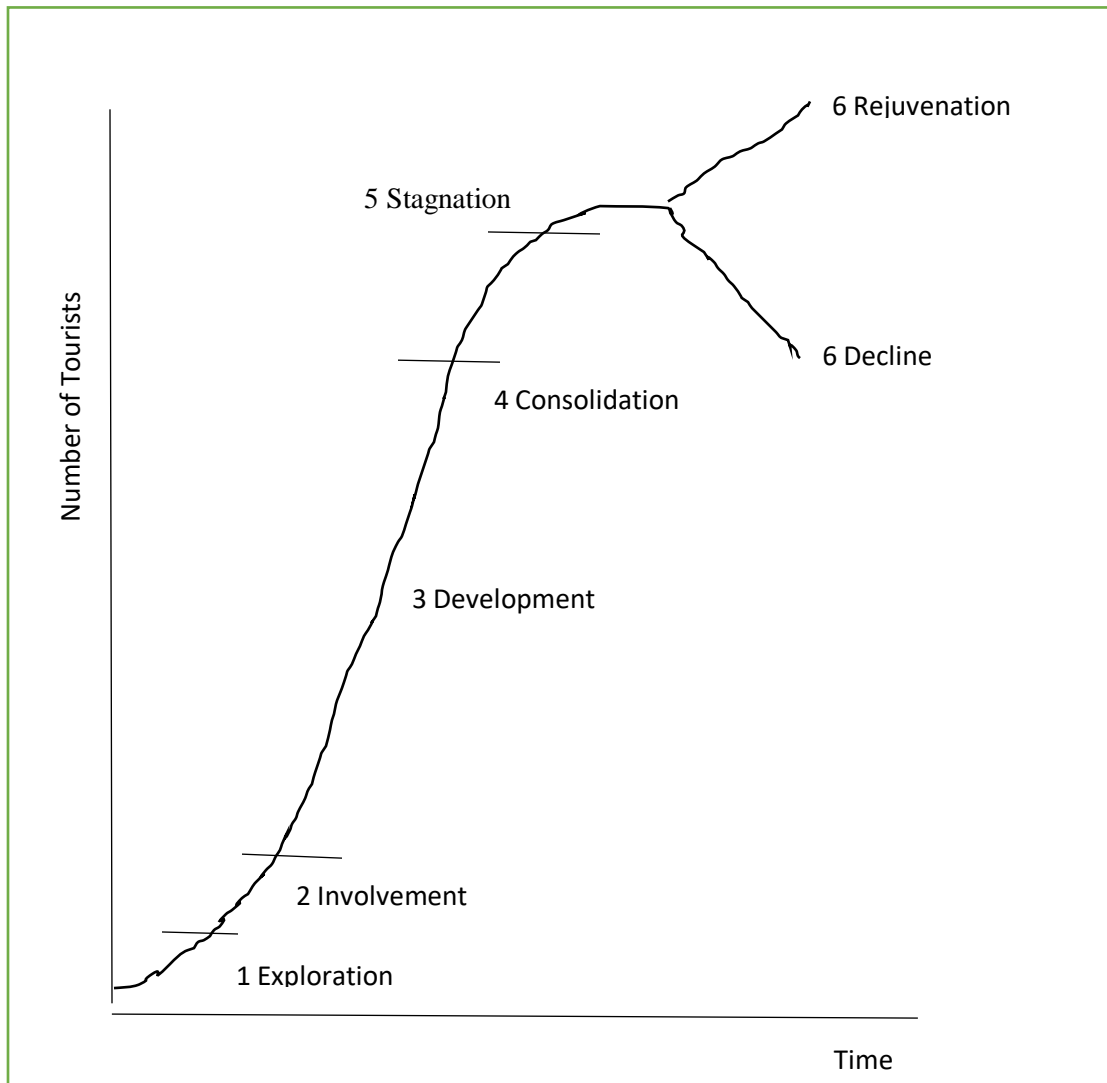
4.2.1 Theoretical Framework

The theoretical framework underpinning this study is found in Butler's (1980) theory of tourism. The theory studies how tourist resorts change over time in relation to the tourist industry demand but the theory has its good and bad sides for the economy as shown in Figure 1. According to the theory, there six (6) stages of tourist resort development and these include the exploration, involvement, development, consolidation stage, stagnation and rejuvenation or decline stages. The exploration stage talks about the evolvement of tourism in a particular area where the number of tourists is small, and tourism here is primarily-based on either natural or cultural entities. At this stage, there are no secondary tourism attractions and tourism does not influence the host country either economically or socially. There is a little development in tourism in the involvement stage where the host country participates in tourism by providing secondary tourism facilities like guest houses and good road networks for the tourist arrivals in the economy. The third phase is the development stage where tourist arrivals are greater than the local population especially during peak periods like any festive period. This stage provides opportunities for those that might want to invest in tourism. Also, the tourism market will be developed through heavy advertisement, investors, both local and foreign, will want to provide secondary tourism attractions, natural and cultural attractions will be developed and marketed, and there will be structural development in the area of attraction. Butler's theory of tourism, as observed in the consolidation (fifth) stage, posits that although the tourism growth may slow down, the number of tourists exceeds the local population. Consequent to this, the country's economy would be tied to tourism growth.

It can be summarized from Butler's four stages of tourism that the development and investment in tourism activities would enhance economic activities. Put differently, the increase in the number of tourists (tourist arrivals) is expected to increase tourist receipts and expenditures which would translate to improved inclusive economic growth as a result of generating foreign reserve, creating job opportunities, generating tax revenues, improving investment in physical capital, human capital, and technology among others (Shahzad, Shahbaz, Ferrer, and Kumar, 2017; Dogra and Siracha-Turk, 201; Tugcu, 2014). Interestingly, the aftermath effect of improved inclusive growth is seen in the increase in tourism activity (Bouazizi and Menara, 2013; Phiri, 2016; Aratus and Estienne, 2019).

Furthermore, the fifth stage is the stagnation stage which represents the bad side of tourism in the host country. At this stage, tourist arrivals will not be increasing as visitor numbers have reached their peak and also, tourism brings about environmental, social, and economic problems. Consequently, the resort will deviate from its geographic environment and artificial tourism attractions would replace both natural and cultural attractions. Hence, if all these happen in an economy, we would expect a decline in the level of inclusive growth premised on the belief that both tourism receipts and expenditures would decline due to a stagnation in the number of tourists. Lastly, the final stage comes into play as a result of the stagnation stage. Butler presents either rejuvenation or decline as the possible outcomes of the stagnation stage. For the rejuvenation stage, the host country would experience an increase in tourist arrivals if there is a major change in tourist attractions and there are other tourism resources that have not been used. The expectation from this stage is to help in improving inclusive growth by providing employment opportunities, reducing the levels of income inequality and poverty. The host country will enter into a decline stage due to her inability to compete with newer tourism attractions and replacing tourism facilities with non-tourism facilities. For instance, converting hotels to retirement homes of flats for residents. Here, the revenues to be generated from tourism would diminish, thus adversely affecting inclusive growth.

In sum, Figure 1 depicts the Butler's theory of tourism where tourist arrivals increase over time with the first four stages of tourism until it gets to the fifth (stagnation) stage where the number of tourists remains constant. At this stage, the number of tourists either rejuvenate or decline and this forms the sixth stage of Butler's theory of tourism.

Figure 1: Butler's Theory of Tourism (Adapted from Butler, 1980)

4.2.2 Model Specification

In specifying the models for the achievement of the study's objective, the following models in line with the theoretical framework and Phiri's study (2016) are adopted and modified as shown in equations (1) and (2).

$$TOI_{it} = \beta_{0i} + \beta_1 ING_t + \varepsilon_{1it} \tag{1}$$

$$ING_t = \alpha_0 + \alpha_{1i} TOI_{it} + \varepsilon_{2t} \tag{2}$$

where TOI and ING are tourism indicators and inclusive growth, respectively, i represents the three tourism indicators under consideration, that is, TAR, TRE, TEX, and TAI, $\beta's$ and $\alpha's$ represent the parameters to be estimated, the error terms are ε_{1it} and ε_{2t}.

4.2.3 Estimation Technique

To establish a causal relationship between inclusive growth and tourism, we employ the Toda-Yamamoto (1995) granger causality test following Aratuo's and Estienne's (2019) study. The TY granger causality test is used because it enables us to use the variables in levels irrespective of the order of integration. In doing this, we need the optimal lag length *(k)* of the VAR model as obtained by the appropriate information criteria. Also, the maximum order of integration *(dmax)* gotten through the unit root test is used in specifying the TY Granger Causality Test. More specifically, the test can be carried out even if the integrated variables of interest are not cointegrated but it is important to include the additional unrestricted lags in the VAR models as shown in equations (3) and (4). Thus, Toda and Yamamoto (1995) prove that this test has an asymptotic χ^2 distribution when a VAR *(k+ d max)* model is estimated.

$$TOI_{it} = \beta_{0i} + \sum_{j=1}^{k+d_{max}} \beta_{1ji} TOI_{it-j} + \sum_{p=1}^{k+d_{max}} \beta_{2p} ING_{t-p} + \varepsilon_{1it} \tag{3}$$

$$ING_t = \alpha_0 + \sum_{j=1}^{k+d_{max}} \alpha_{1j} ING_{t-j} + \sum_{p=1}^{k+d_{max}} \alpha_{2pi} TOI_{it-p} + \varepsilon_{2t} \tag{4}$$

where k is the optimal lag length, d_{max} is the maximum order of integration, $\beta's$ and $\alpha's$ represent the parameters to be estimated in the VAR model, the error terms ε_{1it} and ε_{2t} across the different equations and within the equation are uncorrelated, d_{max} is the maximum order of integration.

In equation (3), *ING* granger cause '*TOI*' provided that $\sum \beta_{pk} \neq 0 \forall_p$. The same thing follows for the second equation. The study, therefore, tests the following null hypothesis in equations (3) and (4) using a modified Wald statistic:

$$H_0 : \beta_{21} = \beta_{22} = ... = \beta_{2(k+d\max)} = 0 \text{ (ING does not Granger cause TOI)}$$

$$H_0 : \alpha_{21i} = \alpha_{22i} = ... = \alpha_{2(k+d\max)i} = 0 \text{ (TOI does not Granger cause ING)}$$

4.3   Empirical Results

4.3.1 Principal Component Analysis (PCA)

PCA helps in converting various variables into a single index using important information about these variables. Thus, TAI is a weighted index of TAR, TRE, and TEX. The result of the PCA is given in Table 1. The table shows that the first principal component (PC1) is very important in crucial in computing TAI as revealed by its eigenvalue of more than 1. This is also confirmed by the proportion of variance explained by the PC1, which shows that the PC1 alone explains more than 60 per cent of the total variability. However, the second (PC2) and third (PC2) principal components are omitted in generating the TAI which is in tandem with the Kaiser criterion.

Table 1: PCA Result

PC	Eigen Values	Proportion explained by PC	Factor loadings		
			TAR	TRE	TEX
PC1	2.03	0.68	0.60	0.43	0.67
PC2	0.83	0.28	-0.51	0.86	-0.09
PC3	1.13	0.04	-0.62	0.29	-0.73

Source: Author's Computation (2020)

4.3.2 Descriptive Statistics and Correlation Results

Descriptive statistics provide the characteristics of the data and the results are obtainable in Table 2. The average values of ING, TAR, TEX, TRE, and TAI are 9.53, 13.30, 20.77, 18.24, and -1.22, respectively. The mean and median values reveal that all the variables are consistent since their values lie within the maximum and minimum values. Also, the values of the standard deviation show that the variables do not deviate from the mean values. Skewness gives a measure of how symmetric an observation is about its mean. The values of the skewness show that all the variables of interest are negatively skewed, except TRE. This suggests that the left tails of the distributions are longer, while that of TRE has a long right tail. For the kurtosis, it measures whether a distribution is peak-topped (leptokurtic, if $K > 3$) or flat-topped (platykurtic, if $K < 3$) or normal (mesokurtic, if $K = 3$). From the statistics, it is observed that ING, TEX, and TRE are flat-topped, that is, they are platykurtic, while TAR and TAI are peak-topped, that is, they are leptokurtic. The Jarque-Bera (JB) statistic is used to test for the normality of a distribution. The null hypothesis of normality is rejected if its p-value < 0.05 and if otherwise, it is accepted. Thus, all the variables under consideration, apart from TAI, are normally distributed with their p-values greater than 0.05.

Table 3 shows that the weighted tourism activity index is highly correlated with the three common measures of tourism. As shown in Table 3, it is observed that the coefficients of correlation are above 60 per cent for all the tourism indicators.

Table 2: Descriptive Statistics

	ING	TAR	TEX	TRE	TAI
Mean	9.53	13.50	20.77	18.24	-1.22
Median	9.62	13.55	20.82	18.22	-1.20
Maximum	9.88	13.64	21.36	19.09	-1.09
Minimum	9.13	13.14	20.00	17.64	-1.54
Std. Dev.	0.30	0.13	0.45	0.45	0.10
Skewness	-0.28	-1.11	-0.20	0.58	-1.39
Kurtosis	1.35	3.25	1.62	2.49	5.24
Jarque-Bera	3.06	5.03	2.06	1.59	12.75
Probability	0.22	0.08	0.36	0.45	0.00

Source: Author's Computation (2020)

Table 3: Correlation Matrix of the Tourism Indicators

	TAI	TAR	TRE	TEX
TAI	1.00			
TAR	0.85	1.00		
TRE	0.61	0.79	1.00	
TEX	0.96	0.18	0.49	1.00

Source: Author's Computation (2020)

4.3.3 Unit Root Testing and Optimal Lag Length Selection

The first thing to do while using a time series is to check for the order of integration of the data involved via unit root testing. In other words, it is imperative to test whether the variables of interest are stationary at levels, I(0) or at first difference, I(1). The reason for this is to avoid spurious regression that can affect the conclusion and recommendation of this study. The Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) tests were conducted in determining the order of integration (see Table 4). Table 4 shows that all the variables of interest are stationary at first difference, that is, they are I(I) and this suggests that changes in the tourism activity and real GDP per capita would be used to ensure the stationarity of the data. The optimal lag length used is 2 for TAI and TAR, and 1 for TRE and TEX based on the Schwarz Information Criterion, SC as shown in Table 5.

Table 4: Unit Root Test

Variable	ADF (intercept only)			PP (intercept only)		
	I(0)	I(1)	Order	I(0)	I(1)	Order
ING	-0.93	-3.69**	I(1)	-0.94	-3.69**	I(1)
TAR	-2.57	-9.79**	I(1)	-2.57	-10.13**	I(1)
TRE	-0.62	-6.06**	I(1)	-0.98	-5.03**	I(1)
TEX	-1.44	-4.01**	I(1)	-1.68	-5.41**	I(1)
TAI	-1.04	-2.63*	I(1)	0.30	-4.83**	I(1)
Critical Value						
	I(0)	I(1)		I(0)	I(1)	
5%	-2.89	-2.89		-2.89	-2.89	
10%	-2.58	-2.58		-2.58	-2.58	

Note: ** and ** indicate stationarity at 5% and 10%, respectively.

Source: Author's Computation (2020)

Table 5: Lag Length Criteria

Variable	Lag	LogL	LR	FPE	AIC	SC	HQ
ING & TAR	0	15.28	NA	0.001	-1.21	-1.11	-1.18
	1	65.70	87.08	1.51E-05	-5.43	-5.13	-5.36
	2	79.71	21.65*	6.16e-06*	-6.34*	-5.84*	-6.22*
ING & TRE	0	-2.96	NA	0.005	0.45	0.55	0.47
	1	55.31	100.65*	3.89e-05*	-4.48*	-4.19*	-4.41*
	2	59.02	5.73	4.04E-05	-4.46	-3.96	-4.34
ING & TEX	0	-13.77	NA	0.01	1.43	1.53	1.46
	1	50.52	111.05*	6.01E-05	-4.05	-3.75*	-3.98
	2	55.28	7.35	5.68e-05*	-4.12*	-3.62	-3.40*
ING & TAI	0	26.70	NA	0.0004	-2.25	-2.15	-2.22
	1	73.71	81.20	7.30E-06	-6.16	-5.86	-6.09
	2	87.36	21.09*	3.08e-06*	-7.03*	-6.54*	-6.91*

*indicates lag order selected by the criterion
LR: sequential modified LR test statistic (each test at 5 per cent level)
FPE: Final prediction error   AIC: Akaike information criteria
SC: Schwarz information criteria   HQ: Hannan-Quinn information criteria
Source: Author's Computation (2020)

4.3.4 Causal Relationship between Tourism and Inclusive Growth

Our choice of TY granger causality test is valid because we do not have any I(2) variables, meaning that all the variables are integrated of order 1, I(1). Having done this, the optimal lag lengths to be included in the $(k+d_{max})$ order VAR model are displayed in Table 5. What to do next is to determine the direction of causality between each of the tourism indicators and inclusive growth. As presented in Table 6, there is evidence of unidirectional causality running from tourist arrivals (TAR) and tourism activity index (TAI), as measures of tourism, to inclusive growth, while the study records no causality running either way between inclusive growth and each of tourism receipts (TRE) and tourism expenditure (TEX).

The unidirectional causality supports the tourism-led inclusive growth hypothesis (TLGH) and the acceptance of this hypothesis is consistent with the studies of Yusuff and Akinde (2015); Phiri (2016); Akighir and Aaron (2017); Govdeli and Direkci (2017); Ohlan (2017); Shahzad *et al.* (2017); and Sharma (2018) among others, even though they used growth in its totality and not in its inclusiveness. On inclusive growth, the findings align with the study of Butler and Rogerson (2016) in South Africa where "tourism development in Dullstroom provides a range of positive economic and social benefits for residents. This implies that an increase in tourist arrivals and tourism activity index (using the three tourism indicators) will help in achieving inclusive growth through employment opportunities, thus leading to lower levels of income inequality and poverty. This is found to be against some studies (Aratuo and Estienne, 2019; Bouzahzah and Menyari, 2013) that support the growth-led tourism hypothesis (GLTH). These findings are not surprising for the Nigerian economy as the tourism industry is now of the biggest industries in the economy and has some potentials that enable it to positively influence inclusive growth. For instance, in 2017, tourism contributes 34 per cent of GDP and 20 per cent of employment (NBS, 2017), while UNWTO predicted that tourism in Nigeria should be able to contribute N3.63 billion of the GDP by the end of 2018.

On the other hand, the rejection of the null hypothesis, for inclusive growth and each of tourism receipts and expenditures, follows the neutrality hypothesis (see studies like Ozturk and Acaravci, 2009); Jackman and Lorde, 2010; Georgantopoulos, 2013; Tugcu, 2014; Phiri, 2016). This also follows Hampton's, Jeyacheya's, and Long's (2018) study in Ha Long Bay. The study establishes that there is no evidence of inclusive growth from tourism yet. By implication, the idea is that both tourism receipts and expenditures would not lead to inclusive growth and vice-versa. This could be a result of other happenings in the economy, like a high level of corruption that has eaten deep into the economy. This also means that corruption will affect the fair distribution of economic growth.

Another striking finding from the results obtained is that when an index (tourism activity index) is generated using all the three indicators of tourism, it presents a better result compared to when the indicators are used separately in a model. For the post regression estimates, we accept the null hypothesis of no serial correlation in the same way with Aratuo's and Estienne's (2019) study, but at the optimal lag k of the VAR model using the Autocorrelation Lagrange-Multiplier test. This is to ensure that the VAR model is specified rightly with *k* lags.

Table 6: Toda-Yamamoto bivariate Granger Causality between tourism indicators and inclusive growth

Endogenous Variable	Exogenous Variable	Lag length	Chi-Square (χ^2)	P-value	Direction of Causality	Remarks
TAI	ING	2	2.03	0.36	Unidirectional causality TAI→ING	Tourism-led inclusive growth hypothesis
ING	TAI		27.73**	0.00		
TAR	ING	2	1.92	0.38	Unidirectional TAR→ING	Tourism-led inclusive growth hypothesis
ING	TAR		30.68**	0.00		
TRE	ING	1	1.35	0.51	No causality	Neutrality hypothesis
ING	TRE		0.45	0.80		
TEX	ING	1	3.33	0.19	No causality	Neutrality hypothesis
ING	TEX		2.61	0.27		

Note: ** denotes statistical significance at 5 per cent and → represents the causality direction.
Source: Author's Computation (2020)

5.   Conclusions

Tourism is observed to be influencing economic and inclusive growth positively in many developed and developing countries, Nigeria inclusive. On this note, this study determines the relationship between inclusive growth and each of tourism indicators (tourist arrival, tourism receipts, tourism expenditures, and tourism activity index) in Nigeria using quarterly data between 1995Q1 and 2018Q4. The results from the Toda-Yamamoto Granger causality test validates the tourism-led inclusive growth hypothesis with two of the tourism indicators used in this study, that is, tourist arrival and tourism activity index granger cause inclusive growth and not otherwise. For tourism receipts and expenditures, there is no evidence of causality running either way between tourism and inclusive growth in Nigeria.

Consequently, the study suggests that the Nigerian government should find a way of promoting tourism in the economy to create jobs and reduce income inequality and poverty. This could be achieved by providing a friendly environment for the tourist, ensuring rural development in areas where the country has tourist attractions, putting in place measures to reduce corruption to avoid mismanagement of tourism receipts and making sure that there is a necessary due process towards tourism expenditures. Furthermore, the Nigerian government should embark on policies that will "strengthen intersectoral linkages", "boost intraregional tourism" and "promote peace" for tourism potentials to translate positively to inclusive growth as argued by Davis (2017) in economic development in Africa report.

On a final note, this study is not without at least one limitation. One of the limitations is that the study fails to account for other control variables, such as exchange rate, human capital, gross fixed capital formation, economic freedom, and trade openness as accounted for by other studies, that could affect the causality between tourism and inclusive growth. In doing this, other authors may look forward to introducing these control variables into the empirical analysis in order to see if the results of the present study would change and also, to find out the way these variables would behave in the nexus between tourism and inclusive growth.

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