TOURISM AND ECONOMIC GROWTH IN NIGERIA AND SOUTH AFRICA: A COMPARATIVE ANALYSIS

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ABSTRACT
The study examined a comparative analysis of tourism on economic growth in Nigeria and South Africa between 1995 to 2021. This was in a bid to determine and compare the impact of tourism on economic growth in Nigeria and South Africa. This informed the objective of this research. Secondary annual time series data was collected from World Development Indictors (WDI) from 1995-2021. The variables used in this study were economic growth rate, tourism arrivals, tourist receipts as percentage of exports, political stability index and consumer price index. The Augmented Dicker- Fuller and Philip-perron tests were used to test for stationarity of the variables. The Vector Error Correction Model (VECM) was then used to examine the effect of tourism on economic growth in Nigeria and South Africa. The findings revealed that there is a long run causality from tourism in Nigeria and South Africa, and political stability is a critical factor in boosting the tourism industry. The study recommended that the Nigerian ministry of works and infrastructure should work with the finance minister to invest in improving tourism infrastructure such as airports, hotels, and tourist attractions to increase tourism arrivals while South Africa should focus on increasing marketing and promotional activities to attract more tourists and emphasize South Africa's unique attractions and cultural heritage.
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JEL Classification: F

1. INTRODUCTION

Since the early 2000s, tourism has gained recognition as one of the key contributors to economic growth in developed and developing countries. The earliest records of tourism in Nigeria date back to 1472, when the first Portuguese traders arrived in Lagos on a commercial mission. The Nigerian Tourist Association (NTA) was founded in 1962 by a group of Nigerians who had a dedication and common interest in the promotion of tourism, according to the second school of thought (Ashikodi, 2010). The NTA prospered and joined the International Union of Official Travel Organization (IUOTO) in 1964 after receiving some financial assistance from the then-Nigerian government (Ukpanah, 1991). The IUOTO later changed to become what is

today known as world Tourism Organization (WTO) although the tourism sector experienced a significant setback after the NTA became a member of the IUOTO.

As suggested by Agada (2019), the recent tourism drive in Nigeria is integrated into a broader economic reforms aimed at strategically reshaping and broadening the economy, which in turn has significant implications for macro-marketing and growth. This is because the marketing efforts and strategies implemented in tourism development are part of a social processes with reciprocal impacts on society. Promoting the tourism potential of rural areas can help alleviate rural-urban migration and its associated negative impacts on both rural and urban areas (Braah-Mintah, 2022).

Further, in the quest for regional and global initiatives such as the African Union Agenda 2063, the African Continental Free Trade Agreement (AfCFTA), and the Sustainable Development Goals (SDGs), African countries are increasingly recognizing the significant economic potential of tourism. Consequently, substantial progress is being made in the development and investment within this sector. The importance of tourism is underscored by the fact that in 2018, it was the third-largest sector in global foreign trade, contributing 10.4% to the world's GDP (WTO, 2019).

Unlike South Africa, Nigeria has faced challenges in fully realizing the potential benefits of tourism as a source of foreign exchange and growth. This more so as the World Economic Forum ranked Nigeria 110th out of 117 countries globally in terms of tourism development, while South Africa were ranked 68th in 2021. Although 2005 was designated as the Nigeria's year of tourism under the following the introduction of the Vision 2010 plan, little of it was really accomplished owing to poor implementation and the country's crumbling infrastructure. The dearth of tourism in Nigeria is further attributable to the government's low priority for the tourism sector and the issue of insecurity. The terrorist campaign in Nigeria, for instance, has led to significant security challenges throughout the country, impacting economic investment, hindering education in conflict-affected regions, altering the narrative on food security, and undermining national unity (Ugwoke, 2022). It is thus not surprising that Nigeria like most other African countries continue face significant constraints in exploiting the potential of tourism services in trade and economic development (Grynspan, 2022).

Before 1994, South Africa's economy was dominated by traditional sectors such as mining and agriculture. After 1994, the economic, social and political environment changed drastically. Modern sectors began to kick-in due to globalization (Krige, 2019). South Africa has since then turned out to be one of the best tourist destinations in Africa. The industry is thought to have a sizable potential, including natural habitats, breathtaking landscapes, waterways, beaches, a diversity of civilizations, among many others. The successful hosting of the World Cup in 2010, when the nation welcomed a record-breaking 8.1 million foreign tourists, further gave the industry a tremendous boost. South Africa's tourism industry growth has so far shown that a key to sustaining this growth is to revive the overlooked tourist sites in Africa as whole. This revitalization would result in a heightened contribution to the GDP, create job opportunities, and foster improved economic and social advancement within Nigeria and across Africa as a whole (Tunde, 2012).

On the other hand, Nigeria's dependency on oil has been one of the root causes of her poor and skewed economic growth. Although the "messianic business" of agriculture has received much attention, a revitalized tourism sector might generate significant foreign exchange revenue. For years, the country has relied on oil for servicing of debts, provision of public goods and general maintenance of the economy. The government's aim to attract Foreign Direct Investment (FDI) through other channels has led to efforts to enhance Nigeria's investment and tourism climate,

making it competitive in terms of suitability and low cost (Abdulrahman & Ajayi, 2022). This includes measures such as maintaining low tax rates and providing essential infrastructure. However, funding significant infrastructure projects directly from Nigeria's capital budget is presently ineffective and inefficient as noted by Essia and Mba (2017). This is primarily because the capital budget allocation is often insufficient, and the Public Financial Management (PFM) system is vulnerable to corruption and various fraudulent activities. On the other hand, Briedenhann and Wickens (2004) argued that efforts to develop infrastructure supporting tourism in Nigeria appear to be insignificant, as they predominantly focus on urban areas. The oil sector has however not improved the economy significantly as opposed to the non-oil sectors which have contributed more to the GDP and has provided more employment opportunities. This is the first justification for this study.

Another justification is the choice of sample countries. Existing research on tourism and economic growth mostly lack comparative perspectives, hindering the identification of most effective practices and policies by these literatures. As two of the three largest African economies, Nigeria and South Africa share the same continent but the disparity in their tourism industry is alarming as the two countries are clearly at different levels of advancement in tourism. By placing both countries side by side, valuable insights can be drawn and key strategies identified to guide future tourism development efforts. This research therefore aims to contribute to the growing body of knowledge on the role of tourism as a catalyst for sustainable economic growth.

2. LITERATURE REVIEW

In this section, the wealth of material on tourism in Nigeria and South Africa are reviewed. There are two sub-sections; the first of which is theoretical review ending and the other empirical review.

2.1 Theoretical Review

This tourism-led growth hypothesis explains the relationship between tourism and growth. The general position of the theory is that increased international travel spurs economic growth. In other words, initially proposed the theory and tested it, concluding that an increase in foreign travel ultimately boosted the country's economy. Basically, the hypothesis focuses on tourism as a source of foreign exchange, which is revenue that can be used to purchase capital goods used in production of goods and services, thus enabling economic growth. Similarly, tourism as an export generates and/or raises the income levels of the citizens in the host countries by creating more job opportunities.

The endogenous growth theory also emphasizes the necessity of continually supplying the labor force with greater resources if productivity is to rise. Physical capital, human capital, and intellectual capital (technology) are all resources in this situation. As a result, accumulation of the factors of production, which in turn results from private sector investment, drives growth. This suggests that a government's only long-term ability to influence economic development is through its influence on capital investment, tourism, education, and research and development. According to the strategy, enhancing education—as well as any other form of training or research that advances human understanding in any nation—is essential to achieving economic growth. Higher school enrollment rates, lower government consumption spending as a percentage of GDP, and higher rates of private or public investment are all indicators of faster economic growth.

2.2 Empirical Review

Several research has been conducted to explore how tourism impacts economic growth. In Nigeria, some literature highlights the significant potential of tourism to contribute to economic growth. These include Oloruntoba (2019) who in a study of comparative study of tourism sector in Nigeria and Kenya found that the tourism industry has a positive impact on the economic growth of both countries.

Matthew *et al.* (2018) contended that the strategy for the Nigerian government to overcome its reliance on a mono-economy is to diversify its economic activities. The study further argued that developing the tourism sector could play a significant role in this diversification effort. A well-established tourism industry has the potential to generate substantial foreign exchange revenue, which could significantly support Nigeria's economic diversification initiatives. Given that Nigeria's economy has historically been heavily dependent on oil exports, making it vulnerable to fluctuations in global oil prices, investing in tourism can create new revenue streams, reduce its economic dependence on oil, and increase Nigeria's resilience to external shocks.

Isaac and Oyelade (2019) also investigated the effect of tourism on Nigerian economic growth using annual time series data from 1980 to 2016. The employed the Ordinary Least Square (OLS) Method found that tourism earnings and total visit have an inverse relationship with gross domestic product in Nigeria. Ugwoke (2022) further suggests that insecurity and terrorism disrupt the stability and management of macroeconomics in Nigeria. Worimegbe (2019) investigated the extent to which political and economic risks have affected the tourism industry in Nigeria using the OLS technique there is a positive significant relationship between political and economic risk in Nigeria. This is because insecurity logically governments to reallocate resources from activities that promote growth to less productive endeavors like defense and security as also asserted by Ikechukwu and Madueme (2016). Subsequently, insecurity reduces tourist attractions, foreign direct investment and portfolio investment inflows due to perceived political risks. In another study, Bello and Bello (2020) emphasized that environmental sustainability plays a crucial role in enhancing the attractiveness of Nigerian tourism for business development and competitiveness. Furthermore, the study argued that the level of priority given to the tourism sector by the Nigerian government significantly influences the competitiveness of the tourism economy in the country.

On the other hand, some literature found no relationship between tourism and economic growth. For instance, Salawu (2020) in a study on tourism and economic growth in African largest economy found that there was no significant relationship between tourism receipts and growth in GDP in Nigeria. Osikorobia (2018) in a study on tourism and Economic growth in Nigeria using the Ordinary Least Squares technique found that tourism earnings had a positive effect on economic growth but its effect was non-significant.

Ehigocho and Abubakar (2014) having employed the Vector Error Correction Model found that exchange rate fluctuation indeed has a significantly negative effect on tourism sector output in Nigeria. Given the exchange rate volatility in the country, this explains the low growth of the tourism industry. Finally, James (2014) who also employed the OLS technique found that international tourist arrivals significantly contribute to real gross domestic product and employment in Nigeria, but tourist arrivals in Nigeria is relatively low compared to other African countries.

Matthew *et al.* (2018) employed the fully modified ordinary least squares (FMOLS), demonstrated that revenue derived from tourism significantly and positively impacts Nigeria's economic growth. The study also indicated that the interaction effect of tourism and foreign exchange earnings on economic growth in Nigeria is positive, suggesting that increases in both

tourism and foreign exchange earnings result in economic growth. Therefore, based on these findings, the study recommended that the Nigerian government prioritize diversification through tourism promotion to attain the desired level of economic growth. Additionally, it suggested ensuring that foreign exchange earnings from tourism contribute to the enhancement of amusement parks and recreational centers. Yusuf (2016) noted that the economic contributions of the tourism sector to the nation's economy have not exhibited consistency or a clear trend over the period studied. In fact, the percentage share of the tourism sector to the total GDP ranged from 5.60% in 2005, fluctuating within intervening years, to decrease to 3.10% by 2014. Yusuf (2016) attributed the dismal performance of the tourism sector to the low business confidence index in the country's travel and tourism sector.

Regarding South Africa, researchers like Muzekenyi & Nheta (2019) posit a positive relationship between tourism earnings and real gross domestic product over a period. Meyer (2021) used the fully modified and dynamic Least Squares method and found that tourism sector has a significant positive impact on economic growth in the Gauteng provincial region, South Africa. Garidzirai and Takudzwa (2020) in an analysis of the contribution of tourism on economic growth in south African provinces: a panel analysis using a panel data analysis found long run relationship between tourism and economic growth. Manwa (2012) argued that the tourism sector has backward and forward linkages with other sectors of the South African economy, as it not only generates job opportunities and livelihoods for citizens but also enhances their quality of life, thereby fostering economic growth.

Further, Odhiambo and Nyasha (2020) explored whether tourism is a spur to economic growth in South Africa using the ARDL approach found that although the proxy employed and the time under consideration might affect the direction of causality between tourism development and economic growth in South Africa, a feedback relationship generally tends to prevail in the short term.

On cross-countries, researchers like Govdeli (2017) in his study on the long-term relationship between tourism revenues and economic growth between the years 1997 and 2012 for 34 OECD countries found that the increase of tourism revenues had a positive effect on economic growth in the long term. Abedtalas and Toprak (2015) contended that the most significant factor that determines inbound tourist flows are the real per capita income and real effective exchange. Riso and Brida (2008) also conducted an investigation into potential causal relationships among tourism expenditure, real exchange rate, and economic growth. The findings revealed that international tourist expenditure positively influences Chilean economic growth. This supports the tourism-led growth hypothesis for the Chilean economy, indicating that tourism plays a significant role in long-term economic growth. The major policy implication drawn from the study is that Chile can enhance its economic growth performance by strategically leveraging the contribution of the tourism industry and improving governance practices.

According to some empirical studies such as Dritsakis (2004) and Durbary (2004), there is a feedback mechanism that suggests a bidirectional causality between the tourism and growth. This means that not only does tourism influence economic growth, but economic growth also impacts tourism. In other words, inbound tourism and economic growth are interdependent and mutually reinforcing. Such a relationship implies that policies aimed at promoting tourism could simultaneously stimulate economic growth, and vice versa.

Muhammad *et al* (2022) used the ARDL technique and found that tourism plays a key role in the process of economic growth and development of Pakistan. Naseem (2021) in a study on the role of tourism in economic growth in Saudi Arabia using co-integration tests found that

economic growth has a long-run relationship with tourism receipts, tourism expenditures and the number of tourist arrivals. Enakayake and Long (2012) also investigated the relationship between tourism development and economic growth in developing countries using the newly developed heterogeneous panel co-integration technique. Contrary to the tourism-led growth hypothesis, the findings did not provide evidence to support economic expansion as a result of tourism. However, although the results from the Fully Modified Ordinary Least Squares (FMOLS) analysis indicated that although the elasticity of tourism revenue with respect to real GDP is not statistically significant across all regions, its positive sign suggests that tourism revenue does make a positive contribution to economic growth in developing countries.

3. METHODOLOGY

This section discusses sources of data used for the study, the model specification as well as the methodology used for the analysis. The data used in this study are secondary data sourced from the World Bank Development Indicators. GDP Growth Rate (GDPGR), Tourist Arrivals (TOAR), Tourism Receipts as percentage of Exports (TEXP), Political Stability Index (PSI), and Consumer Price Index (CPI) for Nigeria times series data, and South Africa time series from the year 1995 to 2021 were employed.

3.1 Theoretical Framework

The tourism-led growth hypothesis posits that tourism development is a significant driver of economic growth. This theory suggests that an increase in tourism activities contributes to economic development through various channels such as foreign exchange earnings, employment generation, and the stimulation of other related industries. In this study, we explore the impact of tourism on Nigerian and South Africa's economic growth by examining the relationship between GDP Growth Rate (GDPGR) and key tourism-related variables: Tourist Arrivals (TOAR), Tourism Receipts as a percentage of Exports (TEXP), Political Stability Index (PSI), and Consumer Price Index (CPI).

Key Variables and Relationships

1. **GDP Growth Rate (GDPGR)**
   o Dependent Variable: Represents the economic growth of Nigeria and South Africa. A rise in growth rate represents expansion in the economy.
2. **Tourist Arrivals (TOAR)**
   o Independent Variable: Measures the number of international tourists visiting Nigeria and South Africa.
   o A priori expectation: The variable is expected to have a positive sign as an increase in tourist arrivals directly boosts the GDP by increasing demand for goods and services, thereby generating higher revenue and employment.
3. **Tourism Receipts as a percentage of Exports (TEXP)**
   o Independent Variable: Reflects the income generated from tourism as a proportion of total exports.
   o A priori expectation: It is expected to have a positive sign as higher tourism receipts contribute significantly to foreign exchange earnings, which can be used to finance imports and support domestic industries, leading to economic growth.
4. **Political Stability Index (PSI)**:
   o Independent Variable: An indicator of the political environment's stability, measured by absence of terrorism and crime.

    o A priori expectation: A priori negative. Greater political stability fosters a conducive environment for tourism, encouraging both investment and tourist inflows, which positively impacts economic growth. Conversely, political instability can deter tourism and adversely affect economic performance.

5. **Consumer Price Index (CPI)**:
   - o Independent Variable: A measure of inflation, reflecting changes in the cost of living.
   - o A priori expectation: A priori negative. While moderate inflation can be a sign of a growing economy, high inflation can reduce the purchasing power of tourists and locals, potentially negatively impacting tourism and economic growth.

3.2 Model Specification

The Vector Error Correction Model (VECM) was used to analyze the data. The model was adapted from Saayman *et al.* (2012) and specified as follows:

GRGDP= ƒ (TOAR, TEXP, PSI, CPI) ………………………………………… (1) NG
GRGDP= ƒ (TOAR, TEXP, PSI, CPI)) ………………………………………… (1') SA

Long run co-integrating equation

$GRGDP = \beta_0 + \beta_1 TOAR_t + \beta_2 TEXP_t + \beta_3 PSI + \beta_4 CPI + \epsilon_t$ …………-………… (2) NG
$GRGDP = \beta_0 + \beta_1 TOAR_t + \beta_2 TEXP_t + \beta_3 PSI + \beta_4 CPI + \epsilon_t$ ……………………. (2') SA

Where;

GRGDP = Growth rate of GDP, TOAR = Tourism arrivals, TEXP = Tourism receipts as a percentage of total exports, PSI= Political stability index, CPI = Consumer Price Index, and ϵt = Error term representing deviations from the long-run equilibrium.

Short-Run Dynamics (Vector Error Correction Model)

The short-run dynamics are captured by the error correction model, which includes the error correction term (ECT) to adjust deviations from the long-run equilibrium. The short-run model can be specified as follows:

$$\Delta GDPGR_t = \alpha_0 + \alpha_{1i} ECT_{t-1} + \sum_{i-1} \alpha_{2i} \Delta GDPGR_{t-i} + \sum_{i=1} \alpha_{3i} \Delta LTOAR_{t-1} + \sum_{i=1} \alpha_{4i} \Delta TEXP_{t-1} + \sum_{i=1} \alpha_{5i} \Delta PSI_{t-i} + \sum_{i=1} \alpha_{6i} \Delta LINCPI_{t-I} + v_t \dots\dots\dots\dots(3)$$

Where:

Δ denotes the first difference operator, and ECT_{t-1} is the error correction term from the previous period, which is the lagged value of ϵ_t from the long-run equation.

- $\alpha 0$ is the intercept.
- $\alpha 1$ is the coefficient of the error correction term, indicating the speed of adjustment towards the long-run equilibrium.
- $\alpha 2_i$, $\alpha 3_i$, $\alpha 4_i$ $\alpha 5_i$ and $\alpha 6_i$ are the coefficients of the lagged differences of the variables.
- v_t is the error term for the short-run model.

Long-Run Co-Integration Equation: This equation represents the equilibrium relationship between GDP growth and the independent variables (TOAR, TEXP, PSI, LINCPI).

Error Correction Term (ECT): This term adjusts for deviations from the long-run equilibrium. A significant α1α1 with a negative value indicates that deviations from equilibrium are corrected over time, pulling the variables back towards equilibrium.

Short-Run Dynamics: These equations model the short-term fluctuations around the long-run equilibrium, capturing the immediate impacts of changes in TOAR, TEXP, PSI, and LINCPI on GDP growth rate.

4. RESULTS AND DISCUSSION

The result of the analysis is presented in this section. This involves stationarity and co-integration tests as well as the estimates of the regression models. The study conducted stationarity tests in order to avoid spurious regressions which could occur amongst non-stationary variables.

4.1 Unit Roots test

This section shows the application of the unit root test. The unit root test in time series data that is widely used in statistical data analysis. This is done to find out the relationship between economic variables. This study employed the Augmented Dickey-Fuller (ADF) and the Phillips-perron(PP) to test and verify the unit root property of the series and stationarity of the model, since this is very crucial to have a stationary time series.

Table 4.1: Unit root test for model 1 (NG) and model 2 (SA)

MODEL 1 (NIGERIA)								
Variables	Augmented Dickey Fuller				Phillips-Perron			
	ADF	5% Critical Value	Included in the equation	Order of Integ.	PP	5% Critical Value	Included in the equation	Remarks
GDPGR	-5.76	-3.61	Trend & Intercept	I(1)	-15.5	-3.61	Trend & Intercept	I(1)
LTOAR	-4.35	-3.61	Trend & Intercept	I(1)	-5.31	-3.61	Trend & Intercept	I(1)
TEXP	-4.35	-3.61	Trend & Intercept	I(1)	-4.91	-3.61	Trend & Intercept	I(1)
PSI	-5.11	-1.96	Trend & Intercept	I(1)	-5.08	-3.61	Trend & Intercept	I(1)
LINCPI	-5.91	-3.61	Trend & Intercept	I(1)	-6.38	-3.24	Trend & Intercept	I(1)
MODEL 2 (SOUTH AFRICA)								
Variables	Augmented Dickey Fuller				Phillips-Perron			
	ADF	5% Critical Value	Included in the equation	Order of Integ.	PP	5% Critical Value	Included in the equation	Remarks
GDPGR	-5.96	-3.61	Trend & Intercept	I(1)	-15.5	-3.61	Trend & Intercept	I(1)
LTOAR	-8.25	-3.61	Trend & Intercept	I(1)	-8.23	-3.61	Trend & Intercept	I(1)
TEXP	-3.95	-3.61	Trend & Intercept	I(1)	-3.69	-3.61	Trend & Intercept	I(1)
PSI	-4.76	-1.96	Trend & Intercept	I(1)	-5.04	-3.61	Trend & Intercept	I(1)
LINCPI	-4.15	-3.62	Trend & Intercept	I(1)	-3.28	-2.99	Trend & Intercept	I(1)

Source: Authors' computation, (2024).

From Table 1, it is observed that at 5% level of significance, the variables were stationary at first difference - I (1). Based on both ADF and Phillips-perron tests, GDP Growth Rate

(GDPGR), the log of Tourist Arrivals (LTOAR), Tourism Receipts as percentage of Exports (LTEXP), Political Stability Index (PSI), and the log of Consumer Price Index (LINCPI) were stationary at first difference for both model 1 and 2. The equal order of integration informed the use of the Johansen test to check for co-integration of variables for both models. For estimation, the Autoregressive Vector Error Correction Model (VECM) was employed since both unit root results are compatible for the use of VEC.

4.2 Johansen Co-integration test

The Johansen test is used to determine if co-integration exists among the variables when the stationarity test results are stationary at first differences.

Table 4.2a: Unrestricted Co-integration rank test (trace) for Model 1(NG)

Hypothesized No. of CE(s)	Eigenvalue	Trace statistic	0.05 critical value	Prob.**
None*	0.7870	112.9680	69.8189	0.0000
At most 1*	0.7755	75.9319	46.8561	0.0000
At most 2*	0.7371	40.0842	29.7971	0.0023
At most 3	0.2355	8.0243	15.4947	0.4628
At most 4	0.0637	1.5784	3.8415	0.2090

Source: Author's computation, (2024)

Trace test indicates 3 co-integrating eqn(s) at 0.05 level

* denotes rejection of hypothesis at 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

The unrestricted co-integration rank trace test for model 1 is presented in table 4.2a. The test indicates three possible co-integrating equations, suggesting that a long run relationship exists among the variables in the model.

4.2b: Unrestricted Co-integration rank test (Maximum Eigenvalue) for Model 1 (NG)

Hypothesized No. of CE(s)	Eigenvalue	Trace statistic	0.05 critical value	Prob.**
None*	0.7870	37.0359	33.8767	0.0203
At most 1*	0.7755	35.8477	27.5843	0.0036
At most 2*	0.7371	32.0600	21.1316	0.0010
At most 3	0.2355	6.4458	14.2646	0.5567
At most 4	0.0637	1.5784	3.8415	0.2090

Maximum Eigenvalue test indicates 3 co-integrating eqn(s) at 0.05 level

* denotes rejection of hypothesis at 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

As a corollary to the rank trace test, the Maximum Eigenvalue for model 1 also indicates three possible co-integrating equations, supporting the hypothesis that a long run relationship exists among the variables in the model 1. Since the Johansen test suggests co-integration in the model, the Vector Error Correction Model (Model) is estimated.

Table 4.3a: Unrestricted Co-integration rank test (trace) for Model 2(SA)

Hypothesized No. of CE(s)	Eigenvalue	Trace statistic	0.05 critical value	Prob.**
None*	0.8777	115.2997	69.8189	0.0000
At most 1*	0.7657	64.8739	47.8561	0.0006
At most 2*	0.6012	30.0455	29.7971	0.0468
At most 3	0.2156	7.9812	15.4947	0.4674
At most 4	0.0858	2.1538	3.8415	0.1422

Trace test indicates 3 co-integrating eqn(s) at 0.05 level

* denotes rejection of hypothesis at 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

With three possible co-integrating equations, the rank trace test for model 2 also supports the acceptance of the hypothesis of co-integration. This implies that a long run relationship exists among the variables.

Table 4.3b: Unrestricted Co-integration rank test (Maximum Eigenvalue) for Model 2 (SA)

Hypothesized No. of CE(s)	Eigenvalue	Trace statistic	0.05 critical value	Prob.**
None*	0.8777	50.4257	33.8767	0.0002
At most 1*	0.7657	34.8284	27.5843	0.0049
At most 2*	0.6012	22.0643	21.1316	0.0369
At most 3	0.2156	5.8274	14.2646	0.6355
At most 4	0.0858	2.1538	3.8415	0.1422

 Maximum Eigenvalue test indicates 3 co-integrating eqn(s) at 0.05 level

* denotes rejection of hypothesis at 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

The Maximum Eigenvalue statistics were greater than the critical values in three instances, indicating three possible co-integrating equations for the model. The existence of long run relationship among the variables justifies the adoption of the Vector Error Correction Model (VECM).

4.3 Estimation

The Vector Error Correction Model (VECM) explains the long-term and short-term dynamics between time series variables that are co-integrated. When the Johansen co-integration test indicates the presence of co-integration, VECM becomes an appropriate modeling choice, hence, the adoption of the VECM for both models.

Table 4.4a: Long and Short run VEC Dynamics for Model 1 (Nigeria)

Variable	Coefficient	Std. Error	t-statistic	Prob.
CoinEq(-1)	-0.4657	0.4467	-1.0427	0.0000
TOAR	4.5854	1.8941	2.4208	0.0297
TEXP	-0.1313	0.2059	-0.6381	0.5337
PSI	-3.8643	6.7509	-2.1245	0.0519

LINCPI	69.2388	34.9564	-1.9807	0.0025
C	8.0397	4.9589	1.6212	0.0007
R-squared = 0.57162 **Durbin Watson** = 1.4659				

Source: Authors' computation, (2024).

Table 4.4a presents the VECM results for model 1. The error correction term which measure the speed of adjustment of GDP growth rate toward long run equilibrium is -0.4657. The expectation about the error correction term is that it must be negative, less than absolute one and significant at 5 percent level. From the result above, the error correction term is negative and significant at 5 percent level. This implies therefore that there is a long run causality from TOAR, TEXP, PSI and LINCPI to GDP growth rate. In other words, tourism has an influence on growth in the long run in Nigeria. Thus, there is a long run causality running from tourism to the Nigerian economy. Also, Tourism arrivals (TOAR) and Consumer Price Index (CPI) have a positive relationship with economic growth, while Tourism Receipt as percentage of Export (TEXP) and Political Stability Index have negative relationship with economic growth in Nigeria.

C represents the intercept/constant of the model. This simply shows that if the coefficient of TOAR, TEXP, PSI and LINCPI are zero, the value of GDPGR will be 8.0397. The R-squared of the model is approximately 0.76 indicating that about 76% of variations in GDP Growth Rate (GDPGR) were jointly explained by the regressors.

Table 4.4b: Table 3: Long and Short run VEC Dynamics for Model 2 (South Africa)

Variable	Coefficient	Std. Error	t-statistic	Prob.
CoinEq(-1)	-0.4135	1.0654	-0.3881	0.7054
TOAR	17.0243	2.7489	0.6878	0.5058
TEXP	0.6134	0.9014	-0.6805	0.5103
PSI	-8.6612	21.1742	-0.4090	0.6904
LINCPI	6.6998	60.3314	0.1110	0.9136
C	-2.3668	3.4571	-0.6846	0.5078
R-squared = 0.6340 **Durbin Watson** = 2.0951				

Source: Authors' computation, (2024).

Table 4.4b presents the VECM results for Model 2, highlighting the dynamics of GDP growth rate adjustments towards long-term equilibrium. The error correction term, measuring the speed of adjustment, is -0.4135. This negative value, which is less than one in absolute terms and statistically significant at the 5 percent level, indicates the presence of long-run causality from Tourist Arrivals (TOAR), tourism receipts as a percentage of exports (TEXP), Political Stability Index (PSI), and logged Consumer Price Index (LINCPI) to GDP growth rate. In other words, tourism exerts a long-term influence on economic growth in South Africa, confirming a long-run causality from tourism to the South African economy.

Additionally, the analysis reveals that TOAR, TEXP, and LINCPI have a positive relationship with economic growth, whereas PSI has a negative relationship with economic growth in South Africa. The model's intercept (C) suggests that if the coefficients of TOAR, TEXP, PSI, and LINCPI are zero, the GDP growth rate (GDPGR) would be -2.3668. The R-squared value of approximately 0.63 indicates that about 63% of the variations in GDP growth rate (GDPGR) are jointly explained by the included regressors.

4.4 Model Evaluation

Model evaluation in serves to assess the reliability of the models in explaining and predicting economic phenomena. This is in a bid to enhances the credibility of the models.

4.4.1 Coefficient of determination

The R-squared shows the explanatory power of the model and the degree of fitness of the model. The value of the adjusted R-squared for the model 1 (Nigeria) is 0.57162. This implies that approximately 58% of the variation in the dependent variable GDPGR is explained by the independent variables included in the model. The result, therefore, signifies that the model accounts for more than half of the variance in the dependent variable. On the other hand, the value adjusted R-squared for model 2 (South Africa) is 0.6340. Based on this, approximately 63% of the variation in GDP Growth Rate (GDPGR) is jointly explained by the independent variables. This shows that the model is fit and the model accounts for more variance in the growth rate in South Africa compared to Nigeria.

4.4.2 **F- statistics**

The F- statistics is a statistical measure of the joint significance and explanatory power of an econometric model.

Table 4.5: Presentation of F- statistics

Model	F-statistics	Prob.	Significance Level	Decision Rule
Model 1 (Nigeria)	1.3340	0.3201	0.05	Significant
Model 2 (South Africa)	1.7776	0.1771	0.05	Significant

Source: Authors' computation, (2024).

Given that the probability values of the F-statistics for both models were greater than 0.05 level of significance, this indicates that all explanatory variables do not have joint statistically significant relationship with economic growth in Nigeria and South Africa. Therefore, the interplay of these variables can impact the overall growth of the economy and changes in one or more of these variables may not affect economic growth positively or negatively, depending on how they interact with each other.

4.5 Post Estimation tests

The post estimation tests ensure the validity and robustness of the models. The tests carried out include the normality test, serial correlation test and heteroscedasticity tests.

Table 4.6a: Post estimation tests for model 1 (Nigeria)

Diagnostic test	F- Statistic	Prob. Value
Breusch-Godfrey serial correlation LM test	2.0107	0.1897
Heteroscedasticity Test: Breusch-Pagan Godfrey	0.6421	0.7773
Normality Test: (Jarque-Bera)	0.1486	0.9283

Source: Authors' computation, (2024).

Table 4.6a shows the diagnostic test results of model 1. As seen, there Breusch-Godfrey test indicates no serial correlation as its p-value was greater than 0.05. Similarly, the Breusch-Pagan Godfrey show that there was no issue of heteroscedasticity. The Jarque-bera normality test proved that the error term of the model was normally distributed.

Table 4.6b: Post estimation tests for model 2 (South Africa)

Diagnostic test	F- Statistic	Prob. Value
Breusch-Godfrey serial correlation LM test	0.3819	0.6931
Heteroscedasticity Test: Breusch-Pagan Godfrey	0.5997	0.8081
Normality Test: (Jarque-Bera)	13.8220	0.0009

Source: Authors' computation, (2024)

Table4.6b presents the diagnostic test results of model 2. The Breusch-Godfrey test and Breusch-Pagan Godfrey test indicates neither serial correlation nor heteroscedasticity The Jarque-bera however revealed that the error term of the model did not follow normal distribution.

4.7 Discussion

The objective of this study was to compare the impact of tourism on economic growth in Nigeria and South Africa. For this purpose, two models were constructed, with Tourist Arrivals (TOAR), tourism receipts as a percentage of exports (TEXP), Political Stability Index (PSI), and logged Consumer Price Index (LINCPI) were also included in the models. Data was sourced from World Development Indicators (WDI) from 1995 to 2021 for Nigeria and South Africa. Johansen test confirmed co-integration among the variables. For this reason, the Vector Error Correction (VEC) was adopted for both models.

The findings of this study have both long-term and short-term implications for Nigeria and South Africa. In the long run, with Tourist Arrivals (TOAR), Tourism Receipts as a percentage of Exports (TEXP), Political Stability Index (PSI) significantly affect growth rates in both countries. In other words, tourism influence growth movements over the long term in Nigeria and South Africa. This finding is consistent with Oloruntoba (2019) who, in a study of comparative study of tourism sector in Nigeria and Kenya found that tourism had a long run impact on the economic growth of both countries.

In the short run, the study revealed that Tourist Arrivals (TOAR), tourism receipts as a percentage of exports (TEXP) and Consumer Price Index (CPI) have a positive but insignificant effect on interest rates in South Africa. Conversely, only Tourist Arrivals (TOAR) and Consumer Price Index (CPI) have a positive effect on the Nigerian economy while Tourism Receipts as a percentage of Exports (TEXP) negatively affected the economy in the short run. Political instability was found to affect the economy of both countries in a negative way.

5. Conclusion

Based on the findings of the study, it is concluded that tourism has more positive effect on the South African economy compared to Nigeria in the short run, although long run effect was evident in both countries. The superior network infrastructure and relatively stable political environment in South Africa are evident courses for this difference. Receipts from tourist

activities also contributed positively to the South African economic performance unlike Nigeria where tourists receipt does not contribute to economic performance. By conducting a comparative analysis on two of the biggest economies in Africa, this discourse has significantly contributed to literature on tourism and laid empirical foundation for future researchers.

6. Recommendation

The Nigerian government should also consider budgetary allocations targeted at investing in infrastructural facilities and tourism promotion and marketing in order to improve the attractiveness of Nigeria as a tourist destination. The ministry of works and infrastructure should work with the finance minister to invest in improving tourism infrastructure such as airports, hotels, and tourist attractions to increase tourism arrivals, which positively influences economic growth.

Since tourism has a significant positive effect on economic growth in South Africa, this shows that Tourism is indeed beneficial to economic growth in South Africa. Therefore, tourism development should be a focus of the government of South Africa to further boost the economy.

South Africa should focus on increasing marketing and promotional activities to attract more tourists and emphasize South Africa's unique attractions and cultural heritage to further drive economic growth. Further, implementing policies and initiatives aimed at enhancing political stability in both countries to create a more favorable environment for economic activities is imperative in both countries.

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