

## **An Autoregressive Distributed Lag Method for Tourism Receipts and Economic Growth in Nigeria**

### ***Abstract***

*This study investigated the impact of tourism receipts on economic growth in Nigeria between 1992 and 2017. The data used were sourced from the Central Bank of Nigeria Statistical Bulletin and the World Bank Development Indicators. The study employed the Auto Regressive Distributed Lag (ARDL) technique to analyse the data. In other to test for the stationarity of the time series data used, the Philip Perron unit root test was employed and it was confirmed that only international tourist arrivals was stationary at level while tourism receipts(TOUR), tourism investment(TINV),gross domestic product growth rate(GDPR), receipts for passenger transport items(PTR) as well as receipts for passenger travel items(PTI) were all stationary at first difference. Furthermore, the bound test results showed the existence of a long-run cointegrating relationship among economic growth, tourism receipts, tourism investment, international tourist arrivals, receipts for passenger transport items and receipts for passenger travel items. In addition, the estimated long run coefficient of the ARDL showed that tourism receipt, tourism investment, exchange rate and gross capital formation had a positive and significant impact on economic growth. It was also discovered that tourists' arrivals and receipts for passengers travel items inversely related with economic growth. The study concluded that tourism receipts had significantly influenced economic growth in Nigeria. Consequently, government should urgently put in place policies that could increase the level of tourism receipts in the country. Also, adequate security and basic infrastructural facilities should be provided for both domestic and foreign tourists as this would ensure the influx of international tourists.*

Keywords: Tourism, Investment, Economic Growth, Tourist Arrivals, Receipts.

### **1.0 Introduction**

Tourism development is increasingly viewed as an important tool in promoting economic growth, alleviating poverty, and advancing food security (Richardson, 2012). Furthermore, statistical figures from the database of the World Council of Travel and Tourism (2017) showed that the average

contribution of tourism sector to the global economy was valued at \$7.6 trillion in 2016. In Nigeria, available record from the Travel and Tourism Economic Impact (2017) showed that the contribution of Tourism to GDP in 2017 was about 3.6 percent. Today, tourism is no longer a leisure but an activity that has captured the attention of economists as a major source of foreign exchange for developing and developed countries, compelling aspiring nations to develop both tourist sites, standardize operations and improve infrastructures such as electricity, airports, rail, roads and seaports that support tourism.

Moreover, Eneji, Odey and Bullus (2016) posited that, unlike oil that is non-renewable and which at best employs less than two percent of the population, tourism is an inclusive, sustainable, labour-intensive industry, capable of engaging both skill and unskilled labour. It has the potential to create more jobs per unit of investment than the oil industry. Furthermore, when tourism is properly developed and managed, it can serve as a mechanism for protecting the ecosystem: the natural environments, preserving historical, archaeological and religious monuments and stimulating the practice of local cultures, folklore, traditions, arts and crafts. Economically, tourism brings many benefits to federal, state and local authorities as well as the private sector through the generation of revenue, foreign exchange and financial returns on investment, taxation on tourists and tourist products and linkages to other local industries such as agriculture and fisheries (Frangialli, 2006). In addition, the employment reach of tourism is not limited to urban areas but also rural communities that host tourist sites and monuments. For instance, in 2016 alone, available records from the World Tourism and Travel annual abstract (2017) showed that Tourism directly supported about 649,500 jobs representing about 1.6 percent of total employment in Nigeria. However, despite the fact that Nigeria is blessed with abundant tourism components that could make her achieve its ivory tower of being a leading

tourism provider in Africa, Aremu and Lawal(2018) noted that the sector has been bedeviled by the collapsed infrastructural facilities and insecurity. In fact, the activities of the herdsmen, kidnappers, religious extremists and hoodlums have given a warning signal to the visitors globally to stay away from the country. It is expected that massive influx of tourists should ordinarily increased the amount of tourism receipts in the country that should lead to output growth, but the reverse is the case. This situation is particularly worrisome as low tourist arrivals had adversely affected the volume of tourism receipts in Nigeria. Against this background, it became imperative to examine the extent and magnitude of tourism receipt impacts on economic growth in Nigeria.

## **1.2 Statement of the Problem**

In light of the increasing importance of tourism and the growing interest of government in the sector, it is indeed surprising that there has been dearth of empirical research which explicitly explores the impact which tourism receipts exerts on economic growth in Nigeria compared to what obtains in other sub-Saharan African countries. The few available studies in Nigeria that were country specific such as Eneji, Odey and Bullus(2016) and Aremu and Lawal (2018) only examined the impact of tourism sector on sustainable development in Nigeria using the descriptive and survey method. In the same vein, Enemu and Oduntan (2012) examined whether or not tourism development has any significant social impact on local dwellers of Osun State, Nigeria. This study merely focused on welfare and was concentrated only on one state without national appeal. In addition, Okon (2014) used the Auto Regressive Distributed Lag technique to examine the nexus between in-bound tourism and social factors but not on economic growth. The closest we have to the present study is the work of Nduka, Ezeude and Fredrick (2017) who investigated the impact of tourism on industrial growth in Nigeria. However,

this is more of a disaggregated study as it was concentrated on just a sector of the economy. It is also instructive to note that while the aforementioned studies used some macroeconomic variables such as inflation rate, exchange rate, broad money supply and so on, a study that used the components of tourism such as Tourism investment, tourism arrivals, receipts for travel items and international receipts for transport items as determining variables of economic growth is still lacking in literature. Thus, this study sought to fill this gap by using Auto Regressive Distributed Lag (ARDL) model which was a clear departure from the previous studies that utilized the survey method.

## **2.0 Literature review**

Empirically, Albert (2014) examined the tourism contribution to economic growth in Sub-Saharan African Developing Countries (SADC). The study was carried using descriptive and regression analysis techniques and it was found that the contribution of tourism to GDP, employment, export receipts and investment was significant. It was further found that tourism sector's contribution to the economy varies among SADC countries particularly in Seychelles and Mauritius where tourism was heavily relied on as a major contribution to GDP, employment, export earnings and investment. Thus, it can be evidently confirmed that tourism receipt and investment were important in boosting the economic activities in relation to the GDP per capita of SADC region.

Yusuf, Ibrahim and Cem (2009) investigated the impact of tourism on economic growth in Turkey over the period of 1985-2007. These secondary data gathered for the study were used to examine the causal relations between tourism sector and economic growth using Phillips-Perron test, Cointegration method, Granger Causality test and a Vector Autoregression (VAR) model. The result revealed of the existence of both short and long run equilibrium relationship between

tourism sector and economic growth. The study also revealed that tourism sector granger cause economic growth. Thus, it was emphasized that tourism sector can be used to engineer the growth of the economic if properly managed.

Taizeng, Muhlis, Sudharshan, Jianchun and Wanshan (2019) investigated the impact of tourism quality on economic development and environment: evidence from Mediterranean Countries. The empirically examined the impact of income level of a country's tourist arrival on economic growth and environmental pollution. A sample of eight Mediterranean countries from which an annual data from 1995-2014 were collected and analysed using quantile regression models, autoregressive distributed lag (ARDL) estimations, and a heterogeneity causality test. The empirical results showed that the income level of a country's tourist arrival, across all quantiles, plays a crucial role in enhancing economic development. However, the role of the income level of a country's tourist arrival on environmental pollution varies with the changes in quantiles. More specifically, income level of a country's tourist arrival positively impacted environmental pollution for the lower quantiles and negatively impacted the higher quantiles. The findings from the ARDL models confirm that the income level of a country's tourist arrival positively and negatively impacted the economic growth and emissions respectively. Hence, the need to take necessary actions to ensure sustainable tourism development was emphasized. The need for expansion of the tourism industry without harming the environment in the Mediterranean countries must be put into consideration.

Dritsakis (2012) investigated the relationship between tourism and growth in Mediterranean countries. A sample of seven Mediterranean countries which include Cyprus, France, Greece, Italy, Spain, Tunisia, and Turkey for the period 1980-2007 were selected for the study. A panel co-integration approaches such as Johansen-Fisher, Kao, and Pedroni co-

integration tests were used to analyze the long-run relationship between tourism and growth. The study established a long-run stability between the tourism and growth. It was also showed that tourism positively influence growth. Hence, it implies that a proper management of tourism sector would go a long way in enhancing the growth of the Mediterranean countries under study.

Tugcu (2014) investigated the relationship between tourism and growth in African, European and Asian countries between the periods 1998-2011. A granger causality approach was adopted for the study and the results indicated that there was a bidirectional relationship between the variables for the European and Asian countries. Also, it was discovered that there was no significant relationship between tourism and growth in sampled of African countries. Therefore, the need for African countries to develop and properly manage the tourism sector to deepen and enhance the growth of the economy.

Tangand Abosedra (2014) empirically analyzed the impact of tourism on economic growth in 24 Middle East and North African (MENA) countries over the period 2001-2009. The secondary data collected from the countries under study were analysed using regression technique. The findings indicated that tourism had a positive impact on growth. Therefore, it can be established that, if tourism was developed and properly harnessed, it would greatly contributed to the economic growth of the nations.

Shahzad, Shahbaz, Ferrerand Kumar (2017) investigated the impact of tourism on growth in the top ten tourism destinations over the period 1990 Q1–2015 Q4. The study adopted a quantile-on-quantile model on the collected data. The analysis done using quantile regression techniques revealed that tourism positively and significantly contributed to economic growth of the countries which include China, France, Germany, Italy, Mexico, Russia, Spain, Turkey, the United Kingdom, and the United States under consideration in the study.

Paramati, Alamand Chen (2017) examined the effects of tourism and economic growth and CO2 emissions: a comparison between developed and developing economies. The study employed a robust panel econometric techniques to analysed the data collected from the countries under investigation. The result revealed that tourism was positively and significantly affected the economic growth of both developed and developing economies. The result also revealed that tourism had a negative and significant impact on CO2 emissions which were reduced faster in developed economies than the developing economies. This implies that tourism led to the economic growth through the generation of government returns via taxes and profits.

Ding, Pin and Alan (2016) investigated the relationship between tourism development and economic growth. More specifically, the study investigated whether tourism development was an additional determinant of income in the presence of the standard income determinants such as capital accumulation or whether the effects of tourism development on economic growth worked through the standard income determinants. In the study, an empirical tourism-growth model that was an extension of Solow (1956) model was developed and applied on a cross-section of 109 countries. The analysis done using regression technique indicated that investments in tourism was positive but insignificantly related with economic growth. Thus to engender effective contribution to the long term growth of an economy, tourism should be integrated with a broad development strategy that was primarily focused on the development of standard income determinants.

Selimi, Sadiku and Sadiku (2017) empirically analysed the effects of tourism on economic growth in Western Balkan countries. The study used panel data of 6 countries that were Albania, Bosnia and Herzegovina, Croatia, FYROM, Montenegro and Serbia between the periods 1998-2014. A panel data regression econometric techniques such as fixed and random effects, as well

as individual heterogeneity across the countries were investigated. The results indicated that tourism positively and significantly affected economic growth in the Western Balkan countries. Thus, it was implied that the countries should enhance their efforts by jointly formulated tourism sector policies that could help in engendering economic sustainability.

Eneji, Odey and Bullus (2016) investigated whether tourism subsector has any significant impact on the Nigerian economy. The study adopted descriptive analytic technique and simple percentages for the evaluation and the result showed that tourism positively and significantly impacted the economy, but the subsector was still under-invested and under-utilized. It was also discovered that tourism had a direct impact on employment, income, infrastructure and standard of living as well as the environment and the local economy in terms of social and economic development.

Enemu and Oduntan (2012) evaluated the social impact of tourism development on live of host communities of Osun Oshogbo sacred grove in Osun State Nigeria. The objectives of the research were to identify the various attractions in the destination, evaluate the ways the destination has affected the social lives of the host communities and to determine how the impacts have affected the sustainability of local social lives of the host communities. The primary data used for the study was generated through a well structure questionnaire and the analysis were done using descriptive, regression and Analysis of variance (ANOVA) method. It was discovered from study that tourism development had significant effect on the social lives of the host communities and tourism development had significant effect on the sustainability of the socio-cultural lives of the host communities.

In addition, Anionwu (2018) examined the impact of tourism consumption on the social development of host communities in Cross River State, Nigeria. The study adopted a descriptive

research survey and the data used were obtained from the sample of 400 respondents from the host communities. The analysis were done using descriptive analytic such as percentages, mean, standard deviation and regression analysis technique and it was discovered from the study that tourism consumption had significant social impact on the host communities. Nduka (2018) investigated the impact of exchange rate-tourism on the growth of the economy. A relatively bounds testing approach was employed to test the effect of exchange rate-tourism pass-through effect on growth. It was revealed that an exchange rate-tourism led to the economic growth. Thus, Nigeria should adopt sound policies in the tourism sector that would make it possible to take advantage of the naira depreciation.

Bandoi, Jianu, Enescu, Axinte, Tudor and Firoiu (2020) examined the relationship between tourism development, quality of life and sustainable performance in EU countries. The study adopted cluster analysis in identifying relevant groups of countries, based on the selected variables. The results revealed the existence of a positive relationship between the development of tourism and the increase of the quality of life on one hand and a positive relationship between the level of sustainable performance and tourism intensity on the other hand. Thus, the need for public policies that support the sustainable development. Aremu and Lawal (2018) examined the influence of tourism on sustainable economic development in SouthWestern Nigeria. A descriptive research survey design was employed for the study that was carried out in seven cities of different states of SouthWestern Nigeria. It was discovered that tourism had improved household income and government revenue tremendously.

### 3.0 Research Method

#### Model Specification

There are other several components of tourism that determines economic growth in Nigeria. This includes: the number of international tourists' arrival, receipts for passenger transport items and receipts for passenger travel items which are important variables that can influence the gross domestic product as far as Nigeria is concerned. In order to grasp the relevance of the objective proposed in this study, these variables are presented in a functional equation as follows:

$$\text{GDPR} = f(\text{TINV}, \text{TOUR}, \text{TAR}, \text{PTR}, \text{PTI}, \text{GCF}, \text{EXR}) \quad (1)$$

Equation (1) can be re-written in a logarithm and linear stochastic form as follows:

$$\begin{aligned} (\text{GDPR})_t = & \beta_0 + \beta_1 \ln \text{TOUR} + \beta_2 \ln \text{TINV} + \beta_3 \ln \text{TAR} + \beta_4 \ln \text{PTR} + \beta_5 \ln \text{PTI} + \beta_6 \ln \text{GCF} + \beta_7 \text{EXR} \\ & + \mu_t \end{aligned} \quad (2)$$

Where:

GDPR = Gross Domestic product growth rate

TOUR = Tourism Receipt

TINV = Tourism investment

TAR = Tourists Arrival

PTR = Receipts for Passengers Transport items

PTI = Receipts for Passengers Travel items

GCF = Gross Capital Formation

EXR = Exchange Rate

$\beta_0$  = constant term.

$\beta_i$  = coefficient of the explanatory variables under consideration

$\mu_t$  = Stochastic error term.

The *a priori* sign of the variables are:  $\beta_1 > 0$ ;  $\beta_2 > 0$ ;  $\beta_3 > 0$ ;  $\beta_4 > 0$ ;  $\beta_5 > 0$ ;  $\beta_6 > 0$  and  $\beta_7 < 0$

The Autoregressive Distributed Lag (ARDL) specification of equation (2) above was presented below as equation (3):

$$\begin{aligned}
\Delta(GDPR)_t = & \beta_0 + \sum_{i=0}^p \beta_2 \Delta \ln(TOUR)_{t-i} + \sum_{i=0}^p \beta_3 \Delta \ln(TINV)_{t-i} + \sum_{i=0}^p \beta_4 \Delta \ln(TAR)_{t-i} + \\
& \sum_{i=0}^p \beta_5 \Delta \ln(PTR)_{t-i} + \sum_{i=0}^p \beta_6 \Delta \ln(PTI)_{t-i} + \sum_{i=0}^p \beta_7 \Delta \ln(GCF)_{t-i} + \sum_{i=0}^p \beta_8 \Delta \ln(EXR)_{t-i} + \\
& \delta_1 (GDPR)_{t-i} + \delta_2 \ln(TOUR)_{t-1} + \delta_3 \ln(TINV)_{t-1} + \delta_4 \ln(TAR)_{t-1} + \delta_5 \ln(PTR)_{t-1} \\
& + \delta_6 \ln(PTI)_{t-1} + \delta_7 \ln(GCF)_{t-1} + \delta_8 \ln(EXR)_{t-1} + v_t
\end{aligned} \tag{3}$$

Where  $\delta_i$  were the long run multipliers,  $\beta_0$  is the constant term,  $\beta_1 - \beta_8$  are the coefficients of the explanatory variables previously defined and  $v_t$  is the white noise errors.

Once cointegration established, the conditional ARDL long run model can be established as:

$$\begin{aligned}
(GDPR)_t = & \beta_0 + \sum_{i=0}^p \beta_1 \ln(TOUR)_{t-i} + \sum_{i=0}^p \beta_2 \ln(TINV)_{t-i} + \sum_{i=0}^p \beta_3 \ln(TAR)_{t-i} \\
& + \sum_{i=0}^p \beta_4 \ln(PTR)_{t-i} + \sum_{i=0}^p \beta_5 \ln(PTI)_{t-i} + \sum_{i=0}^p \beta_6 \Delta \ln(GCF)_{t-i} \\
& + \sum_{i=0}^p \beta_7 \Delta \ln(EXR)_{t-i} + Ut
\end{aligned} \tag{4}$$

In the next step the short run dynamics parameter was obtained by estimating an error correction model associated with the long run estimate. This was specified as expressed in equation (5):

$$\begin{aligned}
(GDPR)_t = & \beta_0 + \sum_{i=0}^p \beta_1 \ln(TOUR)_{t-i} + \sum_{i=0}^p \beta_2 \ln(TINV)_{t-i} + \sum_{i=0}^p \beta_3 \ln(TAR)_{t-i} + \sum_{i=0}^p \beta_4 \ln(PTR)_{t-i} \\
& + \sum_{i=0}^p \beta_5 \ln(PTI)_{t-i} + \sum_{i=0}^p \beta_6 \Delta \ln(GCF)_{t-i} + \sum_{i=0}^p \beta_7 \Delta \ln(EXR)_{t-i} + (ECM)_{t-i} \\
& + Ut
\end{aligned} \tag{5}$$

All coefficients of the short run equation were coefficients relating to the short run dynamics of the model convergence to equilibrium and thus, represented the speed of adjustment and the ECM was the error correction term.

### 3.3 Sources of data and Method of Data Analysis

The secondary data used for this study were gathered from the Central Bank of Nigeria Statistical Bulletin (2016) and World Bank development indicators. The data were collected on the variable such as: Gross Domestic Product growth rate, tourism receipts, tourism investment, international tourists' arrivals, receipts for passenger transport items and receipts for passenger travel items were analysed using ARDL techniques.

### 4.0 Result and Discussion

**Table 1 Test for Unit Root**

Variable	Philips-Perron Statistic at level	Philips-Perron Statistic at First Difference	5% Critical Value	Level	Remarks
GDPR	-2.526	-6.956	-2.991	I(1)	Stationary
TOUR	-0.989	-4.408	-2.991	I(1)	Stationary
TINV	-1.159	-7.697	-2.991	I(1)	Stationary
TAR	-7.088		-2.991	I(0)	Stationary
PTR	-1.473	-3.786	-2.991	I(1)	Stationary
PTI	-1.270	-3.530	-2.991	I(1)	Stationary

Source: Researchers' Computation, 2020.

The result in Table 1 indicated that only one variable was stationary at level. This can be seen by comparing the test statistics (in absolute terms) of both the Phillips-Perron test statistic with the critical values (also in absolute terms) at the 5% level of significance. The result showed that only international tourists' arrival (TAR) was stationary at level. However, tourism receipts (TOUR), tourism investment (TINV), gross domestic product rate (GDPR), receipts for passenger transport items (PTR) as well as receipts for passenger travel items (PTI) were all stationary at first difference. Thus, it implies a short run relationship among the variables selected for this study.

**Table 2: VAR Lag Order Selection Criteria**

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-140.6479	NA	0.013913	12.75199	13.04820	12.82649
1	-60.32865	111.7485	0.000332	8.898144	10.97166	9.419626
2	3.465779	55.47342*	6.49e-05*	6.481237*	10.33204*	7.449704*

Source: Researchers' Computation, 2020.

The lag length criteria such as the sequential modified LR test statistic, Final Prediction Error(FPE), Aikake Information Criterion(AIC), Schwarz Information Criterion(SIC) and Hanna-Quinn information (HQ) was also employed to determine the appropriate lag length needed for this study. The test results of the different lag selection methods were reported in table 2. After careful examination of the different lag lengths by estimating the VAR at each lag length and diagnosing the whiteness of resulting residuals, two lag lengths, as recommended by sequential modified LR test statistics and the Akaike Information criteria(AIC) were chosen.

**Table 3: ARDL Bound Test for Cointegration**

Test Statistic	F-Statistic Value	Lag	Sig. Level	Bound Critical Values	
F-Statistic	11.2805	1		Lower Bound I(0)	Upper Bound I(1)
			10%	2.26	3.35
			5%	2.62	3.79
			2.5%	2.96	4.18
			1%	3.41	4.68

Source: Researchers' Computation, 2020.

The bound test was conducted to test whether or not the model variables have a long-run relationship. The results of the bound test for cointegration alongside with the critical values were presented in table 3. The results of the bound test showed that the calculated F-statistic of 11.2805 which exceeds the lower and upper bounds critical values of 2.62 and 3.79 at 5% significance level respectively. Thus, the null hypothesis of no cointegration was rejected, asserting the presence of a long-run relationship between economic growth and other explanatory variables.

**Table 4: Estimated Long Run Coefficient of the ARDL**

Variable	Coefficient	Standard Error	T statistic	Prob
C	-135.8636	45.62730	-2.977681	0.0115
TOUR	0.449801	0.103279	4.355187	0.0013
TAR	-5.822770	2.571671	-2.264197	0.0429
TINV	13.75426	4.248935	3.237107	0.0071
PTR	-0.558138	5.280332	-0.105701	0.9176
PTI	-1.497482	2.741674	-0.546193	0.5949
EXR	0.014648	0.001607	9.112692	0.0000
GCF	0.042205	0.108134	0.390301	0.7032
R- Sqr	0.869575	Mean Dependent var	4.542776	
Adj R-Sqr	0.746532	S.D dependent var	3.445091	
S.E. of reg	0.101741	Akaike info criterion	5.101235	
Sum sqr resid	0.12421	Schwarz criterion	-1.045301	
Log likelihood	22.43594	Hannan-Quinn criterion	-1.365843	
F- Statistic	162.738	Durbin Watson stat	2.012321	
Prob(F- Stat)	0.00000			

Source: Researchers' Computation, 2020.

The long run coefficients were estimated and presented in table 4 since long-run relationship was established. All the regression coefficients were estimated based on the ARDL model. The estimated coefficients of the long-run relationship showed that tourism receipts (TOUR) and tourism investment (TINV) had a direct and significant long run effect on economic growth (GDPR) in the study period. The result further showed that a percent increase in tourism receipts (TOUR), tourism investment (TINV) led to 0.44 and 13.7 percent increase in the growth rate of gross domestic product in Nigeria respectively. This result was consistent with that of Çağlayan, Sak and karymshakov (2011) that opined a positive relationship between tourism development and economic growth. However, international tourists' arrival (TAR), receipts on passengers transport items (PTR) and receipt for passenger travel items (PTI) were inversely related to the growth rate of gross domestic product (GDPR) in the study period. The result further showed that one percent increase in the influx of international tourists' arrival (TAR), receipts on passengers transport items (PTR) and receipt for passenger travel items (PTI) into the

country led to about 5.8, 0.56 and 1.50 percent decrease in economic growth (GDPR) in Nigeria. The reason for this was that most of the tourists that visited the country came for leisure and didn't contribute significantly to the productivity level in the study period. Also, most of the international carriers were owned by the foreigners and the receipts did not really have any meaningful effect on economic growth as these receipts were often repatriated in form of profit to their respective countries.

In the same vein, the estimated coefficients of the long-run relationship showed that tourism receipts (TOUR), international tourists' arrival (TAR) and tourism investment (TINV) were statistically significant in determining the economic growth (GDPR) in Nigeria during the period under investigation. Furthermore, the result of the estimated long run coefficients of the ARDL for receipts on passengers transport items (PTR) and receipt for passenger travel items (PTI) showed their respective statistical insignificance in examining economic growth in Nigeria during the study period. Thus, the need for policy direction toward receipts on passengers transport items (PTR) and receipt for passenger travel items (PTI) in order to engender the nation's economic growth. The R-squared for the model stood at 86 percent. This implies that about 86 percent variations in the growth of GDPR were being accounted for by variations in the explanatory or independent variables. The other 14 percent can be attributed to other factors affecting economic growth in Nigeria outside this model.

#### **4.6 Short Run Parsimonious Estimation**

Given the fact that the variables of the model are cointegrated, the study estimated the short run dynamics in order to capture the speed of adjustment to equilibrium in case of shock as a result of influence of any of the explanatory variables. The result obtained from the parsimonious estimation of the equation was presented in table 5 below

**Table 5 Error Correction Representation for selected ARDL Model: D(GDPR)**

Variable	Coefficient	Standard Error	T statistic	Prob
C	-0.692988	0.857239	-0.808395	0.4360
D(TOUR)	-20.20927	10.72192	-1.884856	0.0861
D(TOUR(-2))	22.08774	9.481053	2.329671	0.0399
D(TAR)	18.13401	5.274411	3.438111	0.0055
D(TAR(-1))	-12.79995	4.929754	-2.596469	0.0248
D(TINV)	13.17252	7.649763	1.721951	0.1130
D(TINV(-2))	39.24829	13.50041	2.907192	0.0143
D(PTR(-2))	-0.995413	0.511913	-1.944498	0.0778
D(PTI(-1))	38.52803	18.30364	2.104939	0.0591
D(GCF(-1))	-26.74526	10.97829	-2.436195	0.0330
D(EXR(-1))	0.005114	0.025019	0.204390	0.8418
ECM(-1)	-0.782645	0.296135	-2.642871	0.0229
R- Sqr	0.784663	Mean Dependent var	0.113948	
Adj R-Sqr	0.569326	S.D dependent var	3.470714	
S.E. of reg	2.277681	Akaike info criterion	4.790072	
Sum sqr resid	57.06615	Schwarz criterion	5.382504	
Log likelihood	-43.0858	Hannan-Quinn criterion	4.939067	
F- Statistic	3.643888	Durbin Watson stat	2.549955	
Prob(F- Stat)	0.021134			

Source: Researchers' Computation, 2020.

The empirical evidence from table 5 revealed that tourism receipts D(TOUR), Receipts for passenger Transport items D(PTR(-2)) and gross capital formation D(GCF(-1)) inversely related with Gross Domestic product rate (GDPR). This result was at variance with the findings of Çağlayan, Sak and Karymshakov (2011). The result further showed that a one percent increase in tourism receipts D(TOUR), Receipts for passenger Transport items D(PTR(-2)) and gross capital formation D(GCF(-1)) decrease GDPR by 20.2, 9.0 and 26.7 percent respectively. However, a two period lag of tourism receipt (TOUR) had a positive sign and thus implies a direct relationship with economic growth. In the same vein, receipts for passenger travel items D(PTI) was directly related to GDPR. The result showed that one percent increase in the level of passenger travel items increases economic growth by about 39 percent. In addition, tourism investment D(TINV) was also positively related to economic growth. It was revealed from the

result that one percent increase in the past level of tourism investment increases economic growth by 13 percent.

Furthermore, international tourist arrival (TAR) was directly related to economic growth. It was also discovered that  $D(TAR(-1))$  was inversely related to economic growth. The result indicated that a percent increase in international tourist arrivals  $D(TAR(-1))$  decreases economic growth by 12.7 percent. Furthermore, exchange rate was positively related to economic growth in the study period. Finally, as expected, the coefficient of the error correction term in the model was negative and statistically significant. The coefficient of the error correction in our model (-0.782645) suggested that about 78 percent of disequilibrium between the economic growth and the explanatory variables under consideration in the long run would be adjusted within one year. The R squared which stood at 0.784663 showed that 78 percent variations in economic growth can be explained tourism receipt, tourism investment, tourists' arrival, receipts for passenger transport items, gross capital formation, exchange rate as well as receipts for passenger travel items. The remaining 22 percent can be attributed to other factors outside the model.

#### **4.7 Stability Test of the Model**

The stability test was performed with the aid of Cumulative Sum (CUSUM) of residual of the ARDL model. The existence of parameter instability would be established if the cumulative sum of the residual goes outside the area between the critical lines. From figure 1, it can be seen that the plots lied within the critical boundaries. Thus, it implies that the adopted ARDL model was stable in determining the relationship between tourism receipt and economic growth in Nigeria.

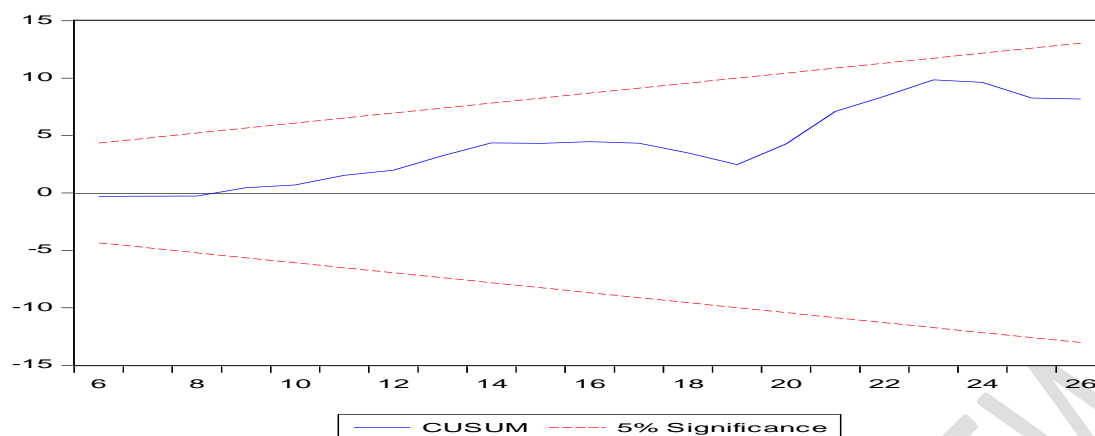


Figure 1:Plot of the cumulative sum of Recursive residual

Source:Researchers' Computation, 2020.

## 5.0 Findings and Conclusion

The study examined empirically the impact of tourism receipts on economic growth in Nigeria. At the initial stage, the study examined the stochastic characteristics of each time series data employed by testing their stationarity using the Philips Perron Test. The unit root tests employed suggested that, all the variables were found to be either I(0) or I(1) stationary. Furthermore, the bound test showed that there was a long run relationship among Tourism receipts, tourism investment, international receipts for passenger travel items, international receipts for passenger transport items and international tourist arrivals. In addition, the short run and long relationship was also considered and the result showed that international tourists' arrival, receipts for passenger transport items and Receipts for passenger Travel items had an inverse relationship with the economic growth. However, a positive relationship exists between tourism receipts and economic growth as well as tourism investment and economic growth. The result also showed that international tourists' arrival was positively related to economic growth when lagged when lagged once.

Based on the findings, it can be concluded that Nigeria can improve her economic growth performance, not only by investing in the traditional sources of growth such as investment in physical and human capital as well as through technological advancements but can also strategically harness the contribution of the tourism industry towards the economic growth. And as such, tourism investment should be increased sufficiently to foster higher economic growth. Since, tourism receipt directly and positive relationship with gross domestic product, government should try and put in place policy that can increase the level of tourism receipts in the country. The need to provide adequate security for both domestic and foreign tourists and investment in basic infrastructure such as roads, better air ports facilities and good transport system must be accorded a high priority. These will go a long way to ensure the influx of international tourists and consequently leads number of tourist arrivals into the country. Government should set up a proper monitoring unit that will ensure that receipts for international passenger transport items are properly remitted.

### References

- Albert, M. (2014). An analysis of tourism contribution to economic growth in SADC Countries, Botswana, *Journal of Economics*, 41-56
- Anionwu, C. (2018). Impact of Tourism Consumption on the Social Development of Host Communities in Cross River State, Nigeria, *International Journal of Trend in Scientific Research and Development*, 2(6), 1498-1507
- Anionwu, C. and Anayo, D. N. (2019). Effect of Tourism Consumption on Ecological Development of Host Communities in Cross River State, Nigeria, *International Journal of Research and Innovation in Applied Science*, 4(10), 43-51.
- Aremu, A. B. and Lawal, L. O. (2018). Tourism Development and Sustainable Economic Development: Evidence from South Western Nigeria, *South Asian Journal of Social Studies and Economics*, 2(1), 1-9.
- Balaguer, J. and Cantavella-Jorda, M. (2002), Tourism as a long-run economic growth factor: The Spanish case. *Applied Economics*. 34(7), 877-884.

- Bandoi, A., Jianu, E., Enescu, M., Axinte, G., Tudor, S. and Firoiu, D. (2020). The Relationship between Development of Tourism, Quality of Life and Sustainable Performance in EU Countries, *Sustainability*, 12, 1-24.
- Ding, D., Pin, N. and Alan, A. L. (2016). Tourism and Economic Growth, *Journal of Travel Research*, 1-30 DOI: 10.1177/0047287514563167
- Dritsakis, N. (2004). Tourism as a long-run economic growth factor, an empirical investigation for Greece using causality analysis. *Tourism Economics*, 10(3), 305–316.
- Dritsakis, N. (2012). Tourism Development and Economic Growth in Seven Mediterranean Countries: A Panel Data Approach. *Tourism Economics*, 18, 801–816.
- Eneji, M. A., Odey, F. A. and Bullus, M. L. (2016). Diversification of Nigeria's Economy; Impact of Tourism on Sustainable Development in Nigeria, *International Journal of Research in Humanities and Social Studies*, 3(5), 36-44
- Enemu, O. B. and Oduntan, O. C. (2012). Social Impact of Tourism Development on Host Communities of Osun Oshogbo Sacred Grove, *Journal of Humanities and Social Science*, 2(6), 30-35
- Erick L. (2011). Evaluation of tourism impacts: A sustainable development perspective. Unpublished thesis of University of Gothenburg, Sweden; 2011.
- Falade, J. B. (2003). Understanding Tourism in Nigeria. JIS Printing Press, Ibadan; 2003.
- Frangialli, F. (2006). Sustainable Tourism and Climate Change; Responding to Global Challenges. *World Tourism Organization*. United Nations Environment Program.
- Ivanov, S. and Webster, C. (2013). Tourism's Impact on Growth: The Role of Globalization, *Annual Journal of Tourism Research*, 41, 231-236.
- Nduka, E. K. (2018). Modeling the Long-Run Relationship Between Exchange Rate-Tourism Pass-Through and Growth: The Case of Nigeria?, <https://mpr.ub.uni-muenchen.de/86584/> MPRA Paper No. 86584, Pp. 1-15
- Nduka, E. K., Ezeude, A. B. and Frederick, I. J. (2017). Modeling the Impact of Tourism on Industrial Growth in Nigeria: Bound Testing Approach. Paper Presented at the 58th Annual Conference of the Nigerian.
- Paramati, S. R., Alam, M. S. and Chen, C. F. (2017). The Effects of Tourism on Economic Growth and CO2 Emissions: A Comparison between Developed and Developing Economies, *Journal of Travel Research*, 56, 712-724.
- Richardson, R. B. (2012). The Contribution of Tourism to Economic Growth and Food Security. USAID, Mali, 1-8.

- Seetanah, B. (2011). Assessing the dynamic economic impact of tourism for Island economies, *Annual Journal of Tourism Research*, 38, 291-308.
- Selimi, N., Sadiku, L. and Sadiku, M. (2017). The impact of tourism on economic growth in the Western Balkan countries: An empirical analysis, *International Journal of Business and Economic Sciences Applied Research*, 10(2), 19-25
- Shahzad, S. J. H., Shahbaz, M., Ferrer, R. and Kumar, R. R. (2017). Tourism-led growth hypothesis in the top ten tourist destinations: New evidence using the quantile-on-quantile approach, *Journal of Tourism Management*, 60, 223-232.
- Tang, C. F. and Abosedra, S. (2014). The impacts of tourism, energy consumption and political instability on economic growth in the MENA countries, *Energy Policy*, 68, 458-464.
- Taizeng, R., Muhlis, C., Sudharshan, R. P., Jianchun, F. and Wanshan, W. (2019). The Impact of Tourism Quality on Economic Development and Environment: Evidence from Mediterranean Countries, *Journal of Sustainability*, 11, 2296, 1-17
- Tugcu, C.T. (2014). Tourism and economic growth nexus revisited: A panel causality analysis for the case of the Mediterranean Region, *Journal of Tourism Management*, 42, 207–212.
- Yusuf, A., Ibrahim, A. and Cem, I. (2009). The Impact of Tourism on Economic Growth: The Case of Turkey, *Journal of Tourism*, Vol. 9, 1-25
- World Travel and Tourism Council (2015). The Authority on World Travel and Tourism: Travel and Tourism Economic Impact on Nigeria.