

AN ANALYSIS OF THE CONTRIBUTION OF TOURISM ON ECONOMIC GROWTH IN SOUTH AFRICAN PROVINCES: A PANEL ANALYSIS

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Abstract: The snail-paced growth of South Africa's economy has become a major concern. If not addressed, it has the ability of causing a technical recession. Despite this economic epidemic, the researchers contend that the tourism sector has a pivotal starring role to play in alleviating the stagnant economic growth in all the South African provinces. Thus, the aim of the study was to explore the role of tourism on economic growth. In achieving the study's aim, the study employed a panel regression analysis from 1996-2018. The study outcomes show a positive association among infrastructure index, tourism receipts, number of local, international tourists and economic growth. Therefore, the study recommends that the factors of production be shifted to the tourism industry for high productivity.

Key words: Tourism, South Africa, provinces, panel analysis, economic growth

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INTRODUCTION

The economic structure in several developing and emerging economies is shifting from traditional sectors such as agriculture and manufacturing to modern sectors such as tourism contributing a larger stake in developing countries. This shift is largely attributed to globalization, thus, developing countries have accepted the gospel of a structural change model (Brelík, 2018). The structural change model claims that developing countries should focus on sectors such tourism and financial services because of their high productivity (Mihajlović, 2014). This assertion has also been confirmed by the World Tourism Organization (WTO) which noticed an increase in the number of tourism activities in developing countries over the past decade (WTO, 2019a). Government authorities have applauded the diversification tourism has brought in their economies (Kum et al., 2018).

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Zhuang et al. (2019) noted that government authorities have realized that tourism has become one of the major sources of positive externalities since its relevance is witnessed in infrastructure development, job opportunities and poverty alleviation. The contribution of the tourism industry is ultimately transmuted to economic growth. For instance, the tourism sector contributes more than 10 percent to the world's economic growth (WTO, 2019b). This finding is in line with other Southern African countries such as Seychelles, Mauritius, South Africa and Tanzania (World Travel & Tourism, 2019). The organization further mentions that there is an increase in tourism in the region. The aforementioned issues raise the crucial interrogation: does tourism play a role on economic development?

The interrogation whether tourism plays a role to economic growth is crucial. The answer to this question is twofold, that is, the complementary and substitutive view. The complementary view subscribes to the idea that tourism provides foreign currency in the economy accounted as receipts from tourists' consumption (Chulaphan & Barahona, 2018). The foreign currency is then used to buy capital goods from other countries and improves the economic growth. The complementary view further stipulates that tourism leads to an improvement in the fiscal sector due to an increase in investment and revenue from infrastructure investment (Kum et al., 2018). There are stylized facts which argue infrastructure development leads to multiplier effects by creating employment which in turn improves household disposable income leading to economic growth (Adobayo & Iweka, 2014). The complimentary view also subscribes to the idea that tourism provides mentoring services to local small firms (Shi & Smith, 2012). The local firms get to enjoy economies of scale that enables them to grow big and reduce their cost of production. On the other hand, the substitutive view shares the notion that expenditure by foreign tourists changes the local buying patterns that are inflationary in nature (Kum et al., 2018).

Furthermore, tourist activities cause negative externalities such as pollution and congestion. The consequences of these outcomes are usually felt in the long run and are manifested land degradation, water and air pollution among others. There is therefore need to create a balance between short run monetary gains and long term non-monetary costs.

It is established knowledge in South Africa that economic growth has been stagnant for the past few years, oscillating between 1.3% in 2017, 0.7% in 2018 and around 1.5% in 2019 (South Africa Reserve Bank, 2020). This has been an issue of concern among researchers. South Africa's economic growth is projected to grow to 1.5 percent in the year 2019 (StatsSA, 2019a). However, the economic growth of 1.5 percent is not enough to sustain the highly populated South Africa. Nevertheless, holding all other things constant, tourism is supposed to be the catalyst to economic growth since the National Treasury (2019a) has identified the sector as one that was exempted from the effects of macroeconomic shocks. The second issue of concern relates to the available writings on economic growth and tourism. Of note is that there is scant literature on tourism and economic growth in Africa, specifically in South Africa. The few scholars that attempted to investigate the relationship focused on a time-series analysis and used variables such as tourism expenditure and the number of tourists to measure tourism (Bandula, 2015; Yusuff & Akinde, 2015; Alhowaish, 2016; Kum et al., 2018). However, the current study shifts the attention from the number of tourists to local and international tourists. Moreover, the study has included the infrastructure development related to tourism that was not used by other researchers. According to the knowledge of the author, there is no study that scrutinized the connection between economic growth and tourism in the provinces of South Africa. Simply put, the current study's main objective is to study the contribution of tourism on economic growth in the South African provinces. The paper organized as follows. Section 2 discusses the nature of tourism in South Africa. Section three is the literature of the study, while data and methods are discussed in section four. The discussion of results is discussed in section five and the conclusion in section 6.

TOURISM IN SOUTH AFRICA

South Africa is naturally endowed in such a strategic geolocation to an extent that Cape Town residents witness the natural wonder of the waters of the Indian and Atlantic Ocean meeting without blending. This is symbolic of its position in both Africa and the rest of the world where South Africa has the privilege of sharing its border with several southern African countries whilst at the same time enjoying the economic benefits of accessing the two oceans. This gives it a comparative advantage of directly linking with other continents and countries such as Brazil and other South American economies which are also to some extent transitional economies; developed economies like the United States of America (USA) and the European Union (EU). At the micro level, South Africa has one of the most diverse tourist attraction centres ranging from beautiful beaches, mountains, wildlife reserves, cities and among others. Complimentary to this is its rich history and diverse culture demonstrated by its adaptation of eleven official languages.

Preceding 1994, South Africa's economy was dominated by traditional sectors such as mining and agriculture. After 1994, the economic, social and political scenery changed drastically. Modern sectors began to kick-in due to globalization (Krige, 2019). South Africa turned out to be one of the best tourist destinations in the continent. This is illustrated by an increase in the number of tourists in the country (Winchester, 2018).



Figure 1. Number of Tourists in South Africa (Source: PricewaterhouseCoopers, 2019)

Figure 1 shows a substantial increase of tourists in South Africa. For instance, in the year 1994, the number of tourists was recorded at 3.9 million but had significantly increased to over 10 million in 2010. These changes could be attributable to the end of apartheid era and the subsequent hosting of the Rugby World Cup in 1996 and the Africa Cup of Nations in 1998. A survey conducted by the Department of Tourism (2019) reports that tourists come to South Africa for shopping, holiday and visiting their friends and relatives. Notable is a sharp rise from 2010-2011. There was a surge in the number of tourists due to the 2010 Soccer World Cup (idem). Major sporting events have a significant influence in placing the host nation in the limelight. The 2019 announcement by the International Netball Federation and Netball South Africa of the coming of the Netball World Cup in 2023 in Cape Town is likely to lead to a rise in tourist figures as indicated by the positive projections in the figure below. From 2010-2018 a noteworthy growth in the number tourists is noted. The number keeps on increasing since tourists visit places like Table Mountain, Nelson Mandela Gateway,

Mangaung Cultural festival, Kruger National Park, Game parks just to mention a few (DOT, 2018). Department of Tourism (DoT) conducted another survey on the reasons that lead tourists to prefer South Africa as their destination. The findings were that South Africa provides first-class tourism services. The survey also found that South Africa is naturally attractive with affordable tourism activities to accompany its attractive tourist sites. Economists and researchers further forecast that the number of tourists will increase to 20 million by 2023. Worth noting is that the majority of tourists are from the Netherlands, United States of America, France, the United Kingdom and Germany (StatsSA, 2019b). This forecast is in line with the World Travel and Tourism (2019) which predicted the doubling in the number of tourists in the next decade.

An increase in tourists is a good indicator as it has the potential of creating employment and improving economic growth in the country. The National Treasury (2019b) reported that tourism adds at least 3 percent to economic growth of South Africa. The organization further reports that tourism is the accelerated rising sector in the country, region and worldwide. These findings are in line with the National Development Plan (NDP) of 2030. The first objective of the NDP clearly stipulates that South Africa's economic growth must improve by 2030 and tourism should be a vehicle to this economic growth (StatsSA, 2019a). Currently, tourism in South Africa is strong in entertainment services, accommodation, transport and food subsectors World Travel and Tourism (2019). The state of the art road, rail and air transport networks give South Africa a huge comparative advantage over its African counterparts. Notable also is the fact that the sub-sectors linked to tourism have contributed about 10 percent to employment (DoT, 2017). The numbers are expected to double in the next coming decade (StatsSA, 2019b).

LITERATURE REVIEW

The connection of economic growth and the tourism sector can be argued using the Keynesian multiplier model. The tourism sector should be treated as the exogenous variable since it is one of the accelerating rising sectors (Kum et al., 2018; WTO, 2019). The Keynesians theorists argue that the proceeds from tourism could transform the economy through the multiplier effect (Brelík, 2018). Thus, an increase in the number of tourism activities generates income that is invested back into the economy, thereby creating employment (Kim, 1998). Employment generates wages for the people involved in the production processes and the wages are injected again in the economy. If done repeatedly, this process could result in job creation and an increase in economic growth.

Furthermore, an improvement in the tourism sector further improves other primary and secondary sectors. However, it is critical to understand that the multiplier model works under the assumption of exogeneity. Thus, in this sense, the Keynesian model does not fully explain the relationship because tourist activities should have generated by factors which are independent of government policy like natural factors, for example, the Table Mountain. In reality, endogenous factors such as government policy will always have significant influence on tourism and economic growth.

A majority of the studies seem to point to a positive association between economic growth and tourism (Bandula, 2015; Yusuff & Akinde, 2015; Alhowaish, 2016; Kum et al., 2018). In fact, a positive relationship between the two variables is a generally accepted stylized fact. A few studies show an inverse association between economic growth and tourism (Chou, 2013; Samimi et al., 2013). Ekanayake and Long (2012) conducted a study that found no link between the two variables. More specifically, a study conducted by Yusuff and Akinde (2015) in Nigeria explored the role of tourism on economic growth. The authors employed time series techniques from 1995-2013. The results revealed a

positive association between tourism development and economic growth in the long-run. However, the authors observed an inverse relationship in the short-run. The authors argued that tourism development yields fruits after a long period since the short run is usually associated with huge sunk costs such as investment in infrastructure and high advertisement costs in international markets. Bandula (2015) arrived at the same conclusion after using the cointegration analysis to investigate the effect of tourism on economic performance in Sri-Lanka. The author claims that tourism is one of the fastest growing sectors, thus, it improves economic growth. Interesting results were found by Ekanyake and Long (2012) who investigated the relationship between tourism development and economic growth in less developed countries. The study used the cointegration technique from 1995-2009 and found no relationship between these two variables. The authors argued that developing countries struggle to develop their tourism sectors as they barely manage to meet their basic needs. Balcilar et al. (2014) countered the argument claimed by Ekanyake and Long (2012) when he investigated the effect of tourism receipts on economic growth in South Africa. Balcilar et al. (2014) established that tourism positively influenced economic growth. The authors employed a Vector Error Correction Model and argued that tourism receipts play a significant role in improving the economic performance. The authors additionally claim that developing countries have natural attractiveness that is sufficient for income generation that improves economic growth.

Samimi et al. (2013) conducted a study to examine the role of tourism on economic growth. The authors used panel data from 1995-2009 and found that tourism inversely influenced economic growth. Shakouri et al. (2017) found contrary results from (Samimi et al., 2013). The authors used the panel data regressions focusing on tourism expenditure and tourism revenue in Asian countries. The study established a positive connection between total expenditure, tourism revenue and economic growth. Notable is that these two studies used different variables and models hence the results did not tally. However, the results of Sakhouiri et al. (2017) tallied with the study conducted by Shih and Do (2016) who examined the impact of tourism on long-run economic growth in Vietnam from 1995-2013. The study employed an ordinary least squares test and found tourism as a driving force to economic growth and development. Godveli and Derekci (2017) examined the relationship between tourism and economic growth in OECD countries.

The study was from 1997-2012 utilizing the panel cointegration tests. The study focused on 34 OECD nations. The outcomes of the study revealed a positive relationship between tourism and economic growth. Another study conducted in European countries showed different results (Chou, 2013). The study revealed a negative connection between economic growth and tourism. The overwhelming fact is that these studies were conducted in the same countries and used the same research methodology but found different results. However, Kim (1998) supported the results of Godveli and Derekci (2017). He argued that tourism is the catalyst to economic growth. The author arrived at this conclusion by the same methodology used by the aforementioned authors.

The other empirical evidence that established a positive relationship on tourism and economic growth includes that of (Akan et al., 2014; Lean et al., 2014; Ajvaz, 2015; Akighir, 2017). Ajvaz (2015) looked at the contribution of tourism on economic growth in Sweden. The study used panel analysis from 2003-2013 in 21 countries. Thus, the study results of the study illustrate a positive association between tourism and economic growth. Akighir (2017) used a different methodology to investigate the effect of tourism on economic growth in Malaysia and Singapore. The study used economic growth as a dependent variable while tourism receipts was an independent variable. International trade and exchange rate were used as control variables and established a positive

connection between tourism and economic growth. Akighir (2017) and Akan et al. (2014) used a time series analysis to examine the contribution of tourism on economic growth in Nigeria and Turkey respectively. The results of both studies found that tourism causes growth in both countries. The reviewed literature on tourism and economic growth shows an inverse and positive relationship between the two (Chou, 2013; Bandula, 2015; Yusuff & Akinde, 2015; Kum et al., 2018). These studies have focused on tourism receipts, tourism expenditure and number of tourists to measure tourism. However, this study contributes to the literature by using infrastructure index, international tourists and local tourists. Therefore, the next section discusses how these variables were measured.

RESEARCH METHODOLOGY

Model Specification

Since the purpose of the study is to examine the contribution of tourism on economic growth, the study adopted the panel data analysis. The panel data analysis was deemed fit because it provides precise parameters on economic variables. Hsiao et al. (1995) propounds that panel data has less multi-collinearity challenges and is capable of simplifying the intricacies of human and economic behavior (Baltagi & Levin, 1986). On the other hand, a panel data analysis is complex when estimating the variables under study. Moreover, the panel data is expensive and mind-numbing (Baltagi, 2005). Important to note is that the advantages outweigh the disadvantages, thus the study employed panel data. The panel data model is specified below

$$GDPP = f(infrindex, inttour, loctour, tourec) \quad 1$$

This can be translated into panel form and equation 2 is formulated as:

$$\ln GDPP_{it} = \beta_0 + \beta_1 \ln infrindex_{it} + \beta_2 \ln inttour_{it} + \beta_3 \ln loctour_{it} + \beta_4 \ln tourec_{it} + \varepsilon_{it} \quad 2$$

Where $\ln GDPP$ represents the economic growth in each province, $\ln infrindex$ is the infrastructure related to tourism in each province. $\ln inttour$ and $\ln loctour$ is the number of international and local tourists in each province respectively. $\ln tourec$ is the income from tourism activities in each province. All variables are in natural logarithms as indicated by $\ln(\chi)$, where χ is the variable. Components i and t represent provinces and time (years), respectively. β_{0-4} represents the coefficients estimated, ε is the error term and it represents panel data. The study employed secondary annual data from 1996-2018 that was sourced from Global Insight (2019). The data is for the nine provinces in South Africa namely: Eastern Cape, Gauteng, Limpopo, Free State, Northern Cape, North West, Mpumalanga, Kwazulu Natal and Western Cape. The data for these provinces' forms part of the panel data framework. The data includes economic growth, number of international tourists, number of local tourists, tourist receipts and infrastructure index. Of note is that economic growth was used as a dependent variable which is a measure of all goods and services produced in each province considering its population (Malik et al., 2010). On the other hand, the number of international and local tourists, tourism receipts and infrastructure index were used as independent variables. The number of international tourist's measures amount of international tourists coming South Africa, while local tourists are the number of all local tourists within each province (Ozcan et al., 2017). The study is expecting a positive association between the number of international tourists, local tourists and economic growth. Tourist receipts is the income from all tourism activities (Rogerson et al., 2018). The study expects a positive link between economic

growth and tourism receipts. The infrastructure index shows the number of infrastructure projects that are related to tourism in each province (Global Insight, 2019). The study expects a positive relationship between economic growth and infrastructure index.

Pre and post estimation tests

Pre- and post-estimation tests were conducted prior to interpretation of results. Firstly, panel stationarity tests were conducted to assess the variables' order of integration. Three methodologies namely Levin, Lin and Chu (LLC), Im, Peseran, Shin (IPS) and ADF tests (Maddala & Wu, 1999) were used in complementary fashion to ensure robustness of results. These tests assume that all the cross-sections are independent in nature and they deal with the autocorrelation problem Maddala & Wu, 1999; Levin et al., 2002). The tests set their null hypothesis on unit root test and if the hypothesis of unit test is recognized then the variable is not stationary. Equally, if the null hypothesis is rejected then the variable is stationary (Garidzirai et al., 2019). The standard panel unit root test is specified by Maddala and Wu (1999) is illustrated in the equation 3 below.

$$\Delta Y_{it} = \rho_i \Delta_{i,t-1} + \sum_{j=1}^{\rho_1} \sigma_{i,j} \Delta Y_{i,t-j} + \varepsilon_{it} \quad 3$$

Where ρ_i undertakes that all the cross-sections are the same, while change in Y represents a difference term and ε is the error term. Notable is that the results of the panel stationarity specify whether researchers should employ cointegration tests or not. The rule of thumb is that when the variables are integrated at order one then the cointegration analysis can be employed. Secondly, the panel cointegration analysis was suggested by Pedroni (1999). The main aim of the test is to check for the association among variables. To achieve the objective, the study employed the Pedroni cointegration. The Pedroni panel permits the slopes of the equation and heterogeneity in the intercepts (Ekanyake & Long, 2012). The Pedroni cointegration has seven tests that it uses to check if the long-run association between variables exists.

This includes the panel v statistic, panel Phillips-Perron type p-statistic, Panel Phillips Perron type t-statistics, Panel Augmented Dickey-Fuller statistics and Group Phillips-Perron type p-statistics, Group Phillips-Perron type t-statistics and Group Phillips-Perron ADF statistics (Pedroni, 1999). Important to note is that, if the p-values of the aforementioned tests are less than 10 percent the null hypothesis of no cointegration is rejected. Thus, the variables are cointegrated and the study proceeds to test a long-run relationship. The panel econometrics literature suggested the use of FMOLS and DOLS if the variables under study are cointegrated.

Hence, the current study employed both the Panel Dynamic Ordinary Least Square and Dynamic Ordinary Least Squares. The advantages of employing these two techniques is that they deal with heterogeneity among individuals, eliminates individual short-run disturbances and regulates the problem of endogeneity (Pedroni, 2004).

Panel Granger Causality Analysis and Cross dependency test

Thirdly, the study also conducted the panel granger analysis as proposed by Engle and Granger (1987) to solve heterogeneity and cross-sectional dependency issues (Shakhouri et al., 2017). Probability values of the w-stat and z-bar which are less than 10% indicates that variables homogenously cause each other while probability values greater than 0.05 using Pearson CD, Lagrange Multiplier and Breusch Chi-Square indicates that the model is free from cross-sectional dependency problems (Garidzirai et al., 2019). Having observed the following, the study concluded that the model was fit and results were robust and fit for interpretation.

Empirical Results

Panel Unit Root Tests

The panel unit root results are illustrated in table 1. In general, all the variables under study were stationary at first difference and integrated at order one.

Table 1. Panel Unit Root Test

Variables	LLC	IPS	ADF
lnGDPP	2.25346	-0.58237	22.9679
	0.9879	0.2802	0.1918
D(lnGDPP)	-2.25400	-4.46199	52.5920
	(0.0121)**	(0.0000)***	(0.0000)***
lnnfrindex	-0.91909	1.41855	12.4607
	1.7900	0.9220	0.8226
D(lnnfrindex)	0.03973	-1.76010	29.9843
	0.5158	(0.0392)**	(0.0376)**
lnInttour	0.75993	-2.22536	15.8381
	0.7764	0.4108	0.6038
D(lnInttour)	3.63273	-2.89097	38.7738
	0.9999	(0.0019)***	(0.0031)***
lnloctour	4.71794	2.23181	11.2816
	1.0000	0.9872	0.8820
D(lnloctour)	2.54054	2.32645	32.4236
	0.9945	(0.0100)**	(0.0196)**
Intourrec	0.17692	0.65368	12.9365
	0.5702	0.7433	0.7953
D(Intourrec)	6.64138	-4.11681	50.8162
	1.0000	(0.0000)***	(0.0000)***

Note **, *** represents 10% and 5% significance level respectively

Since the panel stationarity results indicate variables that are integrated at 1(1), a panel cointegration model can be estimated and analysed. Thus, the next section discusses the panel cointegration analysis.

Panel Cointegration Results

Table 2 illustrates the panel cointegration results. The results show that four out of seven tests are showing a long-run relationship among tourism and economic growth at a 1 and 10 percent level of significance. Therefore, the results illustrate an overwhelming evidence of a long-run relationship of the variables under study. Since the panel cointegration results show that the variables are cointegrated, the study employed the FMOLS and DOLS. The next paragraph discusses the nature of the long-run relationship.

Table 2. Panel cointegration results

With Dimension			Between Dimension		
	Statistics	p-values		Statistics	p-values
Panel v stat	0.61871	0.2681	Group rho stat	1.83867	0.9670
Panel rho stat	0.60654	0.7279	Group pp stat	-1.34425	0.0894*
Panel pp stat	-1.62922	0.0516**	Group ADF stat	-3.20749	0.0007***
Panel ADF stat	-2.82965	0.0023***			

Note*, **, *** represents 10%, 5% and 1% significance respectively

The panel cointegration results have confirmed a long-run association between the variables. Thus, the study employed both the Fully Modified Ordinary Squares (FMOLS) and the Dynamic Ordinary Least Squares (DOLS). The results of these models are shown

in table 3. For instance, the influence of infrastructure index was found to be positive (9.26) and statistically important at 5 percent using the FMOLS. Therefore, a 1 percent increase in the infrastructure index causes a rise of 9.26 percent in economic growth. The same results were obtained by Shih & Do (2016) in Vietnam. The authors concurred that infrastructure development leads to an improvement in economic growth.

The impact of international tourists on economic growth was also found to be positive (0.17027) and statistically significant at 5 percent. Accordingly, a 1 percent increase in the number of international tourists improves economic growth by 0.17 percent in South African provinces. In other words, international tourists have a role to play in improving economic growth since they provide South Africa with foreign currency to buy capital goods. The results are in line with the studies conducted by Shakhouri et al., (2017), Akighir & Aaron (2017). The study concluded that international tourism is the vehicle to economic growth in developing countries. The FMOLS results illustrates that local tourism contributes to economic growth. This relationship was found to be statistically significant at 1 percent. Hence, a 1 percent increase in the number of local tourists improves economic growth by 0.47 percent. Such a relationship was also found by Shih & Do (2016). The researchers concluded that local tourists play a role in economic building of the country. The link between tourism receipts and economic growth was found to be positive in both models but statistically insignificant in the FMOLS model. For DOLS, the link between tourism and economic growth was statistically significant at 1 percent level. Consequently, a one percent increase in tourism receipts improves economic growth by 0.45 percent. The rationale is that the spending by tourists creates jobs that give residents income to spend and improve the number of goods and services produced in a country. The results were also found by tourism experts such as Lean et al. (2014) and Ajvaz (2014).

Table 3. Long-run analysis

Variables	Coefficient	Standard error	t-statistics	P-value
FMOLS				
lnnfrindex	9.26	3.61E-08	2.5656	0.0111**
lnInttour	0.17027	0.0778	2.1864	0.0300**
lnloctour	0.46985	0.08037	5.8458	0.0000***
Intourrec	0.06805	0.04530	1.5023	0.1347
DOLS				
lnnfrindex	1.69E-07	5.70E-08	2.96022	0.0044***
lnInttour	0.19875	0.091969	2.18238	0.0331**
lnloctour	-0.019451	0.172291	-0.11289	0.9105
Intourrec	0.44983	0.145765	3.08596	0.0031***

Note**, *** represents 5% and 1% significance level respectively

Table 4. Cross-section dependency test results

Test	P-values
B-Pagan Ch-Square	0.0000***
Pearson LM	0.8832
Pearson CD	0.3487

Note*** represents 1% significance level

Cross Dependency Test

The cross-sectional dependency test was employed and the results are illustrated in table 4. The Pearson CD, Breusch-Pagan Chi-Square and Pearson LM results show the absence of cross-section dependency and emphasize that the model used in this study was stable and produced robust results. In realizing the study's objective set in section one, the study examined the influence of tourism sector on economic growth in

the South Africa provinces. The study measured tourism using the tourism infrastructure, tourism receipts and the number of local and international tourists.

The main aim was to assess whether these variables influenced economic growth. To achieve the objective, the study employed the FMOLS and DOLS. The FMOLS and DOLS reveal a positive relationship between tourism infrastructure, local tourists, international tourists, tourism receipts and economic growth. The cross-sectional dependency tests show that the results of the study were robust and the model was stable.

CONCLUSION AND RECOMMENDATIONS

In a globalized world, tourism is envisaged to be a catalyst to economic growth. Thus, the study examined the link between tourism and economic growth using a provincial panel analysis. The purpose of the study was to enhance the existing literature on tourism and economic growth by employing the panel regression from 1996-2018. The panel cointegration established a long run relationship between tourism and economic growth. Therefore, the study recommends that the government adopts the structural change model as it has high productivity. In terms of opportunities for further research, the study recommends inclusion of qualitative variables such as quality of tourism activities and duration of stay.

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