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South Africa's Tourism Sector: Job Creation and Employment Analysis Using the Least Squares Method

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ABSTRACT

Tourism is one of the fastest-growing sector of the world economy, with a significant impact on the socio-economic development of countries. In the context of South Africa, this sector is showing steady growth, generating new employment opportunities and stimulating economic development. The purpose of this study is to analyze the relationship between tourism revenues and employment, as well as to examine the impact of the tourism sector on the creation of new businesses in the country. To achieve this goal, we conducted a detailed analysis of World Bank data from 2001 to 2020, employing the least squares method for analysis. The results of the study indicate that, despite the growth of employment and the creation of new companies in the tourism sector in South Africa, there is no direct correlation between these indicators and the increase in income from tourism. However, new businesses in this area have a positive impact on the level of employment, which is confirmed by empirical evidence. These findings expand our understanding of the complex mechanisms of interaction between tourism and employment in South Africa. The inclusion of new job analysis in the study adds a new dimension to it, deepening our understanding of the economic processes taking place in this industry.

Keywords: tourism; tourism economics; employment; tourism receipts; new jobs; panel analysis; least squares method; South Africa

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INTRODUCTION

Tourism is known to be one of the biggest and fastest-growing global industries. Due to the development of economic dynamics and its ability to absorb the workforce, tourism has an enormous potential. Numerous service industries are connected to tourism, and the success of one industry has an impact on the performance of others in its field [1, 2]. Through increasing investment in new infrastructure, expanding employment possibilities, and raising tax and foreign exchange income, it may help a nation's economy flourish. Tourism has grown to be a significant economic industry in many nations throughout the world because of its significant socioeconomic impacts. One of the key economic activities is tourism, which not only generates a sizable portion of the economy's income but also supports the growth of infrastructure and services as well as numerous employments.

According to some studies, tourism is one of the emerging industries, even though the most important conditions for the development of tourism and accommodation businesses to create employment for millions of people are political stability, decreasing working hours, technological progress, increasing income, and a favourable climate. Nevertheless, the most recent study on quality of life and tourism focuses on the one-sided link between the two, highlighting the enormous effects that tourism arrivals and profits have on quality of life [3]. Additionally, it promotes indirect employment in sectors reliant on businesses, including tourism and lodging, restaurant suppliers, building and maintenance firms that construct and maintain tourist facilities and essential infrastructure, manufacturers of aircraft and airlines, various handicraft producers, marketing firms, and accounting services.

Moreover, tourism influences the generation of new jobs in a variety of industries. In certain nations, tourism's contribution to job creation is essential; for instance, India is the second-largest country for creating tourism-related jobs, according to Chandrakanta Sahoo in Dayananda, with 25 million jobs [4]. It is not known whether employment opportunities in the tourist industry were created because of job

cuts in the forestry sector. On the other hand, there is a possibility that there are connections between the jobs available in the tourist industry and those in the forestry industry; for instance, if there is an increase in the number of visitors to a region, it may promote the development of new hotels and cottages. One of the most significant segments of the world economy today is tourism. Tourism is acknowledged to be a wonderful creator of both direct and indirect commercial possibilities, having managed to sustain numerous economies [5].

There has been a lot of interest in the causal link between tourism earnings and income growth in the tourist economy. In terms of government revenue and administration of tourist-related policies, Pérez-Rodriguez and Santana-Gallego [6] contend that tourism earnings have significant policy consequences for target nations. As can be observed, tourism no longer serves as a supplemental source of income; instead, it has evolved into a model for economic growth with positive consequences on the financial, economic, social, and cultural spheres. Financial development helps to economic growth in several ways, including boosting the effectiveness of investments in tourism, lowering the costs of transactions, and altering people's tendencies about savings. Policy actions intended to encourage sustainable economic development and lower the risk of financial instability can be informed by knowledge of how financialization affects economic growth in emerging nations. Some developing nations may have comparatively sizable financial sectors, despite the fact that they are often defined by lower levels of industrialization and economic growth. Mabeba [7] looked at seven developing nations (Brazil, India, Indonesia, Malaysia, Mexico, Singapore, and South Africa) with sizable financial sectors. Nonetheless, tourism has a significant role in accelerating global economic growth and significantly raises revenue, profits from foreign exchange, and employment [8].

Considering all this, the aim of this study is to examine the relationship between newly opened businesses and employment rates and tourism revenues in South Africa. The literature discusses, on employment in the tourism sector [9] and tourism revenues [10]. In this research, a new model was created by adding the variable of opening new businesses. We believe this study will contribute to the literature.

LITERATURE REVIEW

Employment in Tourism Sector

Economy of every country depends heavily on tourism since it generates jobs. Tourism-related careers have long been desirable and reputable. Women are said to find the glossy image of the tourist industry particularly alluring, maybe making up for the comparatively low salary and little chances. They are more inclined than males to accept inadequate wages and working conditions.

Although being viewed as a low-wage industry in poor nations, tourism generates direct, indirect, and induced employment, claim some studies [11]. Most of the tourist work is unskilled, and its availability is very seasonal. As a result, estimates indicate that 75% of individuals employed in the tourist industry lack the necessary skills or training for their positions, and as a result, they earn much less than other workers [12].

According to the research by Adiya, Vanneste, and Van Rompaey [9], employment in the tourist industry's lodging sector generates lower income than other non-agricultural sectors. The link between economic growth and tourism receipts in Türkiye from 2005 to 2021 was looked at in the research by Huseynli [13]. As a result of the research, it was found that the assumptions were correct and that, the Turkish nation that depends heavily on tourism, has an essential role for tourism income in driving economic development.

International Tourism Receipts

International tourism is one of the largest and fastest expanding service sectors in the world. The ability of a country to reduce the development gap it has with other nations and to find solutions to economic difficulties such as unemployment, balance of payments deficits, and financial and monetary macroeconomic instability is essential to the nation's development and economic progress. In this regard, the tourist industry is seen as an important contributor.

According to the findings of a study conducted by Lorah and Southwick [10], the preservation of the natural environment is linked to higher levels of income and employment in the western region of the United States, which has a beneficial effect on both domestic migration and international tourism. Using panel data from 42 different African countries, Fayissa, Nsiah, and Tadasse [14] conducted a study in which they found

that the incomes obtained from the tourism industry contributed significantly to the economic growth of African countries. They concluded this to be the case after analyzing the results of the study. On a smaller scale, early studies conducted in Swedish mountain municipalities reveal that regions next to national parks (that is, within 15 kilometers) employ a greater proportion of the people in the tourist business than does the national average [15].

The association between the presence of world heritage sites in a nation and foreign visitor arrivals and international tourism income was looked at in the research by Bacsi and Tóth [16]. In the research published by Hesami, Rustamov, Rjoub, and Wong [17], the effect of oil prices on tourist revenues in nations that significantly depended on crude oil exports from 2000 to 2017 was investigated.

New Business Registered

The job market is a location where the workforce that offers the services required by employees or employers meets job supply and demand. Tourists typically have a high demand for the nation they are visiting, including lodging, transportation options, retail establishments, and cultural, recreational, and sporting activities.

There is a correlation between the birth of new firms and the advancement of financial conditions. Kumar and Kumar [18] discovered that activities related to tourism influence a country's economic development. It is common knowledge that the tourist industry is also affected when there is a financial crisis [19]. Yet, the expansion of the tourist industry is primarily responsible for the creation of new employment opportunities. Ribeiro and Wang [20] investigated the feasibility of a tourism-induced growth hypothesis for the period spanning 1997–2018.

There was discovered to be a unidirectional Granger causality between the revenues generated by tourism and the expansion of the economy, as well as between foreign direct investment and both the expansion of the economy and the revenues generated by tourist. A study that was carried out by Eyuboglu and Eyuboglu [21] using data covering the period 1995–2016 in nine countries found that the asymmetric panel causality test indicates that there is causality from the positive shock of tourism to the positive shock of economic growth in two of the nine countries.

RESEARCH METHODOLOGY

Purpose and Data Set

The main purpose of the study is to measure the relationship between newly opened businesses and employment rates in South Africa with tourism revenues. The variables included in the research model were examined through empirical analysis. The data set is made up of the yearly data collection between the years 2001 and 2020. The study considered both the logarithmic values of the profits gained from the tourist industry as well as the number of newly formed firms. The evaluation will be done by a panel, as this was the method of choice. The World Bank provided us with the essential data set for the analysis, which we received from them.

Analysis Method

Since the study includes both time and section size, it is the subject of panel data analysis. Recently, there has been a significant increase in the interest in working with panel data and it has been used quite frequently all over the world. One of the important reasons for the increase in the interest in working with panel data is the desire to control for unobserved individual special effects that may be related to other variables within the scope of the model in determining an economic relationship [22]. In general terms, a panel data model can be expressed [23] by formula (1).

$$Y_{it} = \alpha + \sum_{i=1}^{k} \beta_k X_{kit} + \mu_{it}, \quad (1)$$

$$i = 1, \ldots, N; t = 1, \ldots, T; k = 1, 2, \ldots, q,$$

where i is the units in the cross-section ($i = 1, \ldots, N$) and t is the time ($t = 1, \ldots, T$), k is the rank of each independent variable ($k = 1, 2, \ldots, q$). This general econometric model allows for constant and other regression parameters to be reserved for all units in any period.

The least squares model from panel data analysis was used in the study. This preference stems from the idea that there is no unit and time effect between the variables in the data set.

ANALYSES AND RESULTS

Before the analysis, the general statistics table was checked for the usability of the data set to be

Table 1

Likelihood Ratio (LR) Test Results

Tests	LR statistics	Probability value
Unit and Time Impact	0.00	1.000
Unit Impact	0.00	1.000
Time Effect	0.00	1.000

Source: Compiled by the author.

used in the study. After detecting the aspect ratio problem among the data sets, modeling was carried out. The model required for the analysis considers employment as the dependent variable, and energy consumption and industry as the independent variable. The model estimate of the study is explained by formula (2).

$$Ltourism\,revenue = \beta_0 + \beta_1 employment\ rate + \\ + \beta_2 Lnew\ bu\sin esses\ number + \mu. \quad (2)$$

In panel data models, one of the tests used to determine the validity of the classical model, in other words whether there are unit and/or time effects, is the "Likelihood Ratio Test" (LR). In this test, the H_0 hypothesis is established as "the classical model is true". If the H_0 hypothesis is rejected, it is decided that there are unit, time or both unit and time effects, in other words, the classical model is not suitable. As presented in *Table 1*, there is no effect as a result of the LR test. For this reason, the classical model is suitable in the study.

In order for the coefficients of the variables in the established models to be meaningful and interpretable, it is necessary to test whether they have autocorrelation and varying variance. The test for varying variance was done with White's test *in Table 2*.

As a result of the heteroscedasticity test, it was decided that the variances of the error terms were constant for all sections and their covariances were together to zero. In other words, there is no problem of varying variance in the panel.

As in all time series, autocorrelation is an important problem in panel data analysis. As is known, one of the basic assumptions of regression analyzes is that there is no correlation (correlation) between the same errors for different observations. If the error terms are

Table 2

White Test Results

Test statistic	Probability value
9.584	0.088

Source: Compiled by the author

Table 3

Wooldridge's Test Results

Test statistic	Probability value
21.064	0.016

Source: Compiled by the author.

related to each other, this is called autocorrelation or serial correlation [24]. Before moving on to panel regression analysis, the existence of autocorrelation in the data set was investigated by Wooldridge [25] autocorrelation test.

According to the Wooldridge [25] autocorrelation test statistic in *Table 3*, the null hypothesis that "There is no autocorrelation" in the model was rejected. In other words, an autocorrelation problem was observed between the error terms in the equations.

Similarly, the multicollinearity assumption was tried to be tested in the continuation of the analysis. The variance increases factor (VIF), which gives whether there is a multicollinearity error between the variables, is given in *Table 4*. When the data in the VIF table is examined, it is seen that there is no multicollinearity problem.

In this study, the relationship between the variables was examined using panel data analysis as stated before. Descriptive statistics for dependent, independent and control variables used in the study are given in *Table 5*.

Table 4

Vif Criteria Results

Variables	VIF	1/VIF
Employers	1.01	0.988551
New businesses number	1.01	0.988551
Mean VIF		

Source: Compiled by the author.

The results of the least squares estimation analysis are shown as stated in *Table 5*. According to the analysis results, there is no significant relationship between newly opened businesses and employment rates and tourism revenues in this country.

This research attempted to measure the direction and magnitude of the relationship between tourism revenues, general employment rate and newly opened businesses in South Africa. According to the results of the least squares estimation test, there is an insignificant (prob > 0.217) relationship between the employment rate and tourism revenues. In other words, increasing employment rates does not negatively affect the increase in tourism revenues in this country. The opening of new businesses also has an insignificant (prob > 0.122) effect on tourism revenues. Based on the results of the analysis, it can be concluded that there are not enough businesses supporting the tourism sector in South Africa. However, there are not enough academic sources in the literature to support this evidence.

DISCUSSION AND CONCLUSION

According to the findings of the research that was carried out by Hesami, Rustamov, Rjoub, and Wong [17], oil prices and tourism revenues are cointegrated, there is a long-term equilibrium relationship between the two, and there is a unidirectional Granger causality from oil prices to tourism revenues. These findings were discovered because of the study that was carried out.

Macroeconomic stability is greatly impacted by changes in the price of gold and oil, and these changes also indirectly influence the dynamics of economic growth and the travel and tourism industry. By raising production costs, particularly for energy and transportation, rising oil prices might increase the demand for tourism and exacerbate the current account imbalance, particularly in countries that rely heavily on foreign energy [26]. However, gold price rises are often seen as a sign of global uncertainty and cause economic actors to adopt risk-averse behaviors, which in turn stifles trends in investment and consumption [27]. Because they provide foreign currency inflows, tourism revenues in this setting both balance the balance of payments and favorably impact economic growth via investment and employment channels. Thus, the relationship between the tourism industry and changes in the energy and precious metals markets is strategically significant for the long-term viability of economic growth.

Tourism development and regional development are naturally more complex than they appear in statistical models. This means that some important issues are not highlighted here. Statistical models explain much more than any variation in employment change, raising future research questions. This study, which aims to measure the relationship between newly opened businesses, employment rates and tourism revenues in South Africa, revealed some empirical results. The results obtained as a result of the analysis of the data obtained from the World Bank using the least squares model fill the gap in the literature along with the studies in the literature. As a

Table 5

Least Squares Estimation Test Result

R^2	Number of observations		Prob	
0.2896	20		Prob > 0.0307	
Tourism receipts	Coefficient values	Drisc/Kraay Resistive standard errors	T statistics	P > |t|
Employers	–0.045	0.0353	–1.28	0.217
New businesses number	–0.688	0.423	–1.63	0.122
Fixed Coefficient	13.958	2.189	6.38	0.000

Source: Compiled by the author.

result of the research, it was determined that employment rates in South Africa have an insignificant effect on tourism revenues. Otherwise, increasing employment does not affect the increase in tourism revenues in this country.

According to the empirical results of the least squares estimation test, employment rates in South Africa are found to have an insignificant impact on tourism revenues (prob > 0.217). In other words, increasing employment does not affect the increase in tourism revenues in this country. However, it was found that the opening of new businesses factor included in the research model also had a negative effect on tourism revenues (prob > 0.122). Based on this result, it can be said that the number of businesses supporting the South African tourism sector is low. This result also applies to employment rates. It can be said that the strategy framework of South Africa's tourism sector should be well directed. In this context, the state also contributes to the development of the tourism sector. However, we can state that new businesses opened through the tourism sector in South Africa will also have a positive impact on increasing employment rates.

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