

THE CONTRIBUTION OF SUSTAINABLE TOURISM TO ECONOMIC GROWTH AND EMPLOYMENT IN GREECE

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Abstract: *In the global economy, tourism is one of the most important sectors, having a multiplier effect on the other branches of the national economy. The increase in tourist arrivals and implicitly the receipts from tourism can have a positive effect on nations, especially on the Gross Domestic Product and employment. Tourism is a key sector of the national economy of Greece. This study analyzes the impact of tourism on economic growth and employment in Greece, for the analyzed period 1995-2019. The regression analysis we made shows that there is a strong long-term relationship between tourism development and economic growth, respectively employment in Greece, suggesting that the policy makers in this country need to further promote economic policy measures to support this important sector of the national economy.*

Key words: *unemployment rate, economic growth, sustainable tourism.*

JEL Classification Codes: O44, E24, F63, Z32.

1. INTRODUCTION

The tourism industry has become a key sector of sustainable economic development throughout the world. Sustainable tourism means visiting tourist attractions without causing damage to local communities and the environment and having a positive impact on the environment, society and national economy. In many countries, the tourism industry is significant source that generates income and creates jobs, contributing to economic growth.

Even though Greece has been a member of the European Union since 1981, it has not managed to develop a strong economy, a competitive industry. That is why tourism is a vital sector of the Greek economy, contributing to reducing the balance of payments deficit, stimulating employment, generating income and development regionally and locally.

Ironically, the importance of the tourism sector was understood by the decision-makers in Greece, especially during the recession of 2008-2013, the most difficult period of the Greek economy at least in the last 50 years. Greece is the country that went through the global economic crisis the hardest in the first decade of this century, since it recorded the longest period of recession (6 years), and the austerity measures had devastating effects on the well-being and even the morale of its citizens. In 2008, the Gross Domestic Product per inhabitant was EUR 20,795, while in 2013 it reached EUR 16,302 (a drop more than 20% only in 5 years). In the same period, the unemployment rate increased from 7.6% in 2008 to 26.9% in 2013 (IMF, 2014). Tourism is the sector that avoided the complete collapse of the Greek economy, and today it is seen as a key sector of the economy, capable of generating income and jobs.

Tourism has been considered a pillar of growth and economic development since the 60s of the last century, and more and more countries have understood that tourism development can support economic development.



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Tourism has been considered a multidimensional process that contributes to economic growth and poverty reduction (Totaro & Smith, 2011). We can consider this theory as an extension of the growth theory. From the perspective of tourism, the development of this sector generates foreign capital, allows technology transfer and creates employment opportunities, tourism acting as a pillar of economic growth (Mishra, Rout & Mohapatra, 2011).

The neoliberal theories in the 70s and 80s of the last century showed another perspective. Neoliberalism promotes free market mechanisms, eliminating all barriers to trade. In the field of tourism, the neoliberals considered that hotel chains could have an important role in attracting foreign capital and developing infrastructure in tourist areas. The problem of this theory was related to a less involvement of the state, which should have an important role in environment, health, education, social assistance or local development (Sharply & Telfer, 2015).

We consider that the most important theory is the theory of sustainable development. Sustainable development is that type of development that aims at two distinct objectives: economic development and sustainability. In the field of tourism, sustainable development implies developing ways to do tourism friendly to the environment (Lele, 1991). Therefore tourism has an economic and social dimension, but also an environmental, cultural and technological one (Platon, 2018).

There are different opinions on how tourism can contribute to economic growth and employment. Tourism can be considered a driving force of the economy, given the benefits it offers. Tourism can have both a direct and an indirect impact on the national economy (Mazoor, WEI, Asif, Zia & Rehman, 2019). The direct impact refers to the increase of the Gross Domestic Product and employment. The indirect impact refers to the multiplier effect on other sectors of the national economy (Kovačević, 2020).

Tourism could be an instrument of economic diversification for many countries, by promoting new employment opportunities and creating new sources to generate income. Although tourism is more developed in the developed countries, there are still opportunities for the less developed countries to get benefits from tourism (Ayeni & Ebohon, 2018).

Tourism can have a significant impact on the economic expansion in many countries. There are studies in this regard that show a strong correlation between tourism and the economic growth and employment (Brida, Risso & Bonapace, 2009; Pavlic, Šuman Tolic & Svilokos, 2013). Some studies have investigated the correlation between the Gross Domestic Product and the tourism revenues, showing that there is a strong and long-term relation between them (Wang & Ma, 2015; Akan, Arslan & Isik, 2008).

Some research has shown the direct link between the international trade and the economic growth, especially between the exports and the economic growth (Bahmani-Oskooee, 1993; Chow, 1987; Marin, 1992). The foreign exchange contribution of international tourism to the country's economy is significant, balancing the balance of payments. The activity of valorizing the material, financial and human resources through the international tourism is much more advantageous than the export of goods (Ekanayake & Long, 2012). The services related to the international tourism have the same impact on the world economic circuit as the world imports or exports.

2. RESEARCH METHODOLOGY

To study the contribution of tourism to economic growth and employment in Greece, we used the statistical data for the period 1995-2019 provided by the World Tourism Organization (for the tourism indicators - receipts and number of tourists/arrivals) and Eurostat (for the Gross Domestic Product and the employment rate). The 2020 data were omitted since they were altered by the coronavirus pandemic, significantly reducing the tourism flows and receipts not only in

Greece, but also for the other tourist destinations. In this study, the tourism indicators were considered as the independent variable, while the Gross Domestic Product and the employment rate were used as dependent variables.

We used the linear regression method for the quantitative analysis of the indicators and to investigate the empirical relation between them. The Data Analysis section of Excel was used to interpret the results. The method allows to estimate the coefficients of a linear model by the method of least squares and the calculation of the statistics required for the associated statistical tests. We used 25 observations on the variables of the model to estimate the parameters of the model.

3. RESULTS

The tourism industry has gained a leading role in the Greek economy over the past 25 years, becoming a key sector of the national economy. Greece has many advantages over other tourist destinations. Its attractiveness results from the richness and variety of its cultural, natural and geographical heritage. Although it does not have high-quality infrastructure and tourist services, Greece is a traditional destination and has consolidated its reputation in the last 25 years as a country with ancient history, wonderful, hospitable and relatively cheap beaches. This combination of cultural and seaside tourism, accompanied by an unrivaled charm and holiday atmosphere, have made Greece, especially during the summer, one of the main holiday destinations in the world.

Therefore, Greece is one of the most attractive tourist destinations in Europe and in the world. The Greek tourism has often saved the economy of this country, offsetting the losses made by other economic sectors. Greece has recorded an important increase of tourism flow and receipts in the last 25 years, and the contribution of this sector to the national economy has grown constantly (Table 1).

Analyzing the data from the table above, one can see the spectacular growth of both number of tourists and receipts from tourism for the analyzed period. Thus, the number of tourists increased constantly, from 10.71 million in 1995 to more than 34 million in 2019. That growth was constant, with a slight decrease during the economic crisis. The receipts from tourism recorded the same evolution, increasing from 4.18 billion dollars in 1995 to 23 billion dollars in 2019. The increase in receipts from tourism led to the increase of the importance of that sector in the economy.

Thus, the contribution of tourism in the Gross National Product increased from 3.1% to 11.21% and the average receipt per tourist from 390 to 676 dollars during the analyzed period. However, the receipts from tourism are significantly higher in reality, since part of the tourist activities were performed in the "grey" area. This explains the fact that the highest receipts per tourist were achieved in 2008 and 2009, years in which the Greek taxation was very active in trying to tax as many activities as possible and bring more money to the state budget, seriously affected by the global economic crisis of that period.

Table 1. The main tourism indicators in Greece

<i>Year</i>	<i>Number of tourists</i>	<i>Receipts</i>	<i>% of GNP</i>	<i>Receipts per tourist</i>
1995	10.71	4.18	3.10%	390
1996	9.78	3.76	2.60%	384
1997	10.59	3.79	2.70%	358
1998	11.36	6.19	4.30%	545
1999	12.61	8.84	6.20%	701

<i>Year</i>	<i>Number of tourists</i>	<i>Receipts</i>	<i>% of GNP</i>	<i>Receipts per tourist</i>
2000	13.57	9.26	7.10%	683
2001	14.68	9.22	6.80%	628
2002	14.92	10.01	6.50%	671
2003	14.79	10.85	5.40%	734
2004	14.27	12.82	5.30%	898
2005	15.94	13.46	5.40%	844
2006	17.28	14.5	5.30%	839
2007	16.17	15.68	4.90%	970
2008	15.94	17.61	4.90%	1105
2009	14.92	16.04	4.80%	1075
2010	15.01	13.86	4.70%	923
2011	16.43	16.27	5.70%	990
2012	15.52	14.67	6.10%	945
2013	20.11	17.43	7.30%	867
2014	24.27	19.49	8.30%	803
2015	26.11	17.55	9.00%	672
2016	28.07	16.81	8.70%	599
2017	30.16	19.14	9.60%	635
2018	33.07	21.59	10.18%	653
2019	34.01	23	11.21%	676

Source: www.unwto.org

To examine the contribution of tourism, we performed a regression analysis, using the same model for both economic growth and employment. This model can be highlighted as follows:

$$Y_i = \beta_0 + \beta_i x_i + \varepsilon$$

Where: Y_i = dependent variable;
 X_i = independent variable;
 β_0 = intercept;
 β_i = coefficient to be estimated.

The proposed modified regression model is represented by the following equation:

$$\Delta \text{GDP} = \beta_0 + \beta_1 \Delta \text{Tou_g} + \varepsilon$$

$$\Delta \text{Emp} = \beta_0 + \beta_1 \Delta \text{Tou_g} + \varepsilon$$

where: Δ = first difference;
GDP = gross domestic product;
Emp = employment rate;
Tou_g = annual tourism growth;
 β_0 = intercept;
 β_s = coefficient to be estimated;
 ε = error term.

In order to highlight the connection between the evolution of tourism and the economic growth, respectively the employment, we used both the receipts from tourism and the number of tourists as tourism indicators. In the econometric regression model, we used the Gross Domestic

Product and the employment rate (for the 20-64 age group) as dependent (outcome) variables, and the two tourism indicators (used in turn) as explanatory variables.

In order to analyze the correlation between tourism and economic growth, we first determined the impact of the change in tourism receipts on the change of the Gross Domestic Product (Table 2). Using the Analysis section of Excel, we reached the following results:

Table 2. Summary output of regression statistics between the tourism receipts and the Gross Domestic Product

<i>Regression Statistics</i>					
Multiple R	0.681703426				
R Square	0.46471956				
Adjusted R Square	0.441446498				
Standard Error	28053.06247				
Observations	25				
<i>ANOVA</i>					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	15714406117	15714406117	19.9681309	0.000175071
Residual	23	18100409220	786974313.9		
Total	24	33814815337			
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	
Intercept	114397.8849	15208.47394	7.521983161	1.21401E-07	
X Variable 1	4699.608289	1051.702615	4.468571461	0.000175071	

Analyzing the data from the table above, we notice that the p-value is 0.0001 ($p < 0.05$), showing a significant link between the increase in tourism receipts and the evolution of the Gross Domestic Product. The regression model is relevant from a statistical point of view, the value of the F test being 0.000175071, much lower than the significance threshold of 0.05. We can also note that the correlation coefficient R is 0.681, and the values of the R2 (0.464) and adjusted R2 (0.441) tests are lower than 1, indicating an average correlation between the two indicators. These demonstrate that the chosen regression model is a correct one and it can be successfully used in economic analyses.

We will further check the correlation between the evolution of the number of tourists and that of the Gross Domestic Product in analyzing the impact of tourism on economic growth (Table 3).

Table 3. Summary output of regression statistics between the number of tourists and the Gross Domestic Product

<i>Regression Statistics</i>					
Multiple R	0.243168266				
R Square	0.059130806				
Adjusted R Square	0.018223449				
Standard Error	37192.40108				
Observations	25				
<i>ANOVA</i>					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	1999497273	1999497273	1.445480984	0.241486754
Residual	23	31815318065	1383274698		
Total	24	33814815337			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>
Intercept	154263.2885	20759.18073	7.431087501	1.48469E-07
X Variable 1	1293.671385	1076.01365	1.202281574	0.241486754

The data show that the regression model is not statistically relevant, with the F-test value (0.2414) and p-value being significantly higher than the reference value (0.05). We can also note that the value of the correlation coefficient R is 0.243, and the values of the R² (0.059) and adjusted R² (0.018) tests are low, indicating a low correlation between the two indicators. These show that the chosen regression model is not appropriate, at least in the case of Greece.

This is a rare situation in the studies investigating the link between tourism and economic growth. Why is the GDP evolution very well correlated with the tourism receipts, but not with the number of tourists? The explanation could be that during the analyzed period, especially during and after the great crisis of 2007-2011, the number of tourists increased sharply, Greece being perceived as a cheap destination, while tourism receipts had a similar evolution with that of the Gross Domestic Product.

We will further analyze the impact of the increase in tourism receipts on employment (Table 4).

As with the model presented previously, the correlation between the tourism receipts and the employment rate in Greece is very low. The F-test and p-value have very high values, well above the reference value of 0.05. Also, the value of the correlation coefficient R (0.207) and the values of the R² (0.043) and adjusted R² (0.001) tests are reduced, indicating a low correlation between the two indicators. The regression model is also not significant in this case either, at least in the case of Greece.

Table 4. Summary output of regression statistics between the tourism receipts and the employment rate

<i>Regression Statistics</i>					
Multiple R	0.207346831				
R Square	0.042992708				
Adjusted R Square	0.001383696				
Standard Error	3.914294749				
Observations	25				
<i>ANOVA</i>					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	15.83122223	15.83122223	1.033254713	0.319969711
Residual	23	352.3991778	15.32170338		
Total	24	368.2304			
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	
Intercept	62.73291062	2.122065987	29.56218657	8.40869E-20	
X Variable 1	-0.149166018	0.146745976	-1.016491374	0.319969711	

Let us now analyze the impact of the change in the number of tourists on the employment rate. The statistical data show that tourism was the only branch of the Greek economy that had a positive evolution and it is expected that the increase in the number of tourists would have generated an increased need for labor in this important sector of the national economy (Table 5).

Table 5. Summary output of regression statistics between the number of tourists and the employment rate

<i>Regression Statistics</i>					
Multiple R	0.40578718				
R Square	0.164663235				
Adjusted R Square	0.128344245				
Standard Error	3.657014648				
Observations	25				
<i>ANOVA</i>					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	60.63400896	60.63400896	4.533805489	0.044156893
Residual	23	307.596391	13.37375613		
Total	24	368.2304			
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	
Intercept	64.78564454	2.041186527	31.73920839	1.70324E-20	
X Variable 1	-0.225279517	0.10580112	-2.12927347	0.044156893	

Analyzing the data from the table above, we notice that the p-value is 0.044 ($p < 0.05$), showing a significant correlation between the increase in the number of tourists and the employment rate. The regression model is relevant from a statistical point of view, the value of the F test being 0.044, below the significance threshold of 0.05. We can also note that the correlation coefficient R is 0.40, and the values of the R² (0.144) and adjusted R² (0.128) tests are lower than 1, indicating an average correlation between the two indicators.

4. CONCLUSIONS

Tourism represents a very important sector of the Greek economy. The growth of the tourism sector can bring a lot of optimism in the economy, especially in terms of increasing incomes, Gross Domestic Product and employment. Let's not forget the multiplier effect that tourism can have on other economic sectors. Greece is a popular tourist destination and could play a very important role if it is supported by the public authorities.

The main purpose of this paper was to examine the relation between tourism and economic growth, respectively employment. The results obtained were surprising, showing the complexity of this sector, its importance for the Greek economy and the multitude of factors that can influence it. Certainly, the economic crisis from 2007 to 2011 influenced the results. Our research demonstrated a strong correlation between the tourism receipts and the evolution of the Gross Domestic Product, an average correlation between the number of tourists and the employment rate. On the other hand, the correlation between the number of tourists and the evolution of the Gross Domestic Product, respectively between the tourism receipts and the employment rate were quite low. This means that we need to improve the model, to take into account and include among the independent variables other influencing factors.

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