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Testing the Moderating Effect of Tourism Revenue and Globalization on the Economic Growth: Empirical Evidence from Mediterranean Countries

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Abstract

Globalization is a multifaceted phenomenon that creates the conditions for the expansion and development of tourism activities around the world. This study uses an augmented Solow growth model to experimentally evaluate the impact of globalization and tourism on economic growth from 2009 to 2018. This study also investigates the impact of globalization in regulating economic growth as a moderating factor. In this study, two separate models were used for this consideration: (1) the main effects model and (2) the interaction effects model. For the Mediterranean countries, dynamic panel regression models are used to examine this impact. The influence of tourism revenues on economic growth is determined to be highly substantial and favourable; nevertheless, a negative and significant direct effect on economic growth can be detected due to globalization. On the other hand, the current study found that globalization has a considerable moderating influence on the impact of tourism revenue on economic growth in Mediterranean Countries.

INTRODUCTION

The tourism business plays an important part in the development of the world, and it is highly associated with global economic growth. It is a significant source of revenue for governments and is included in the current account's international services section. Tourism, because of this attribute, contributes to increased national income and country growth.

The development and growth process has increased dramatically as a result of the change in production techniques following the industrial revolution. A favourable climate for free movement of goods and services was formed as a result of the growth in output and the economic model adopted by the countries that followed these advancements. Although it has weakened from time to time, particularly owing to crises, security, and political factors, the globalization wave has grown to significant proportions since the 1980s. As a result of the developments in the field of science and technology, the increase in the total supply level throughout the world has accelerated the globalization process.

Tourism is one of the industries that has been affected by globalization. Manzoor et al. (2019), tourism is one of the most visible and rising sectors in the global economy. This industry is critical to a country's economic growth. A rise in tourism traffic can have a favourable economic impact on countries, particularly in terms of GDP and job prospects. Most countries supported initiatives to enhance these activities because of the enormous socio-economic benefits. Tourism, according to Gövdeli (2019), fosters the development of modern services such as international finance, logistics, consultancy, conferences, and exhibitions, while having direct effects on traditional sectors such as transportation, trade, housing, and food.

It has been shown that globalization has an impact on both developed and developing countries, whether directly or indirectly. Bayar et al. (2021) researched the impact of economic, social, cultural, and political globalization on inbound tourism in several Mediterranean nations between the years 1995 and 2017. According to the findings, they concluded that economic, social, cultural, and political globalization all had a favourable effect on incoming tourism. For example, Turkey is at the forefront of countries impacted by globalization in a variety of ways, including social, economic, and political. After 1980, the radical changes made in many fields, especially in the economy, played an important role in the acceleration of the globalization process in Turkey, and tourism became an important sector in terms of the economy.

Countries that determine their tourism-oriented growth strategy can provide more foreign currency input, employment, and therefore national income by exporting services with the tourism sector. The expansion of the tax base with the increase in national income and employment will cause a significant increase in the tax revenues of the state. Increasing tax revenues will help the development of the country by increasing the investments made by the central and local administrations. Tourism revenues are included in the national income and create a multiplier effect in the economy, and the resulting multiplier effect has a positive effect on the economy and supports many sectors. According to the UNWTO (2012), France, Spain, Italy, Turkey, and Greece are the countries with the biggest concentration of tourism movements and the highest income from tourism in the Mediterranean region, which is located in the European region and comprises the countries that have a large proportion of world tourism. Gerçeker et al. (2019) investigated whether the tourism revenues of France, Spain, Italy, Turkey, and Greece, which are located in the Mediterranean region and have an important place in the world tourism activity, have an effect on their GNP

with the annual panel data of the 1995-2011 period. The use of econometric tools revealed a long-term cointegration link between growth and tourism revenue.

The relationship between tourism and economic growth has recently become a hot topic in the literature, with various studies being done as a result of the contributions of tourism to countries' economies. The objective of this research is to look into the moderating effects of globalization on the economic growth of Mediterranean countries, which play a significant role in global and regional tourism. According to a report published by the World Tourism Organization in 2018, the European region is the world's most important tourism centre, with 672 million visitors and $519 billion in tourism revenue. The Mediterranean basin, which is part of Europe, is the region that attracts the most tourists and generates the greatest revenue from tourism. Tourism is one of the most important industries in the Mediterranean region, contributing billions of dollars to the economy. In this perspective, it's critical to look into the tourism sector's contribution to economic growth in these countries. To the best of the author's knowledge, this study will be the first to investigate such an effect in the relevant literature by testing the moderating effect of globalization on the impact of tourism revenue on economic growth.

The following is the sequence in this paper: Section 2 revivals the literature; Section 3 defines theoretical settings; Section 4 covers data and methodology; Section 5 provides results and discussions, and concludes with Section 6.

Literature Review

There have been many studies showing the positive effect of both tourism revenues and globalization on the economy. Khan et.al (2020) investigate the elements that have a favorable or negative impact on the tourist industry, as well as its impact on the global economy. According to the secondary data that were employed and a total of 18 articles that were acquired from the literature their findings reveal that the tourist industry has a strong link to global economic growth and affects the global economy in both long and short term periods.

The impact of tourism on economic growth also has been proven in many articles. Li et al. (2018) examine why tourism is an important indicator for economic growth from the perspectives of poverty reduction contributions, economic impact assessment, efficiency and productivity, and the effects of numerous external economic factors. The majority of the article's findings show that tourism has a favorable impact on economic growth. Some articles show that tourism can help to reduce poverty by increasing prices, wages, and government revenues and that labor, capital, technology, the environment, expenditures, and revenues can all help to reduce poverty. Finally, tourist efficiency and productivity are influenced by labor, capital, technology, the environment, expenditures, revenues, and a variety of external economic issues.

Various international organizations that arose as a result of the globalization process assist the tourist sector in developing and maintaining stable operations around the world. The United Nations Tourism Organization (UNWTO), the International Tourism Association (AIT), and the International Federation of Travel Agencies Associations were the first of these organizations (UFTAA). In his work titled "Globalization in Tourism," Brelik (2018) underlined that globalization is an economic and social phenomenon that makes world economies interdependent. According to many tourism-related facts, globalization has led favourably to the shape and growth of the tourism economy.

Buluk & Özkök (2016) stated that globalization has entered a new structural process in fields such as information, energy, production, and communication, which is displaying its effect in every field and growing velocity. The tourism business is the most affected by the structure process in diverse disciplines, which has intensified with globalization, and that structuring in this field is unavoidable. Okumuş (2019) claims that the impact of globalization on the world is growing with the tourism sector being the most affected. The author highlights that the globalization phenomenon is visible in Turkey and has a good impact on tourism.

Many studies have been conducted on the influence of globalization on the economies of Mediterranean countries. In some of these studies, one or more Mediterranean nations were selected and analyzed in terms of the impact of globalization on their economies (Balaguer and Cantavella-Jorda, 2002; Dritsakis, 2004; Gunduz ve Hatemi-J, 2005; Dritsakis, 2012, Sarıdogan, 2019, Gulcemal, 2020; Grasso and Schilirò, 2021).

Theoretical Settings

The theoretical background of this study is based on the Cobb-Douglas production function. It is a particular functional form of the production function that represents the technological relationship between the amounts of several inputs and output that can be produced by those inputs. The Cobb-Douglas production function is often used to demonstrate the impact of physical capital and labor on the quantity of output that may be generated. This research looked into the effects of tourism revenues and globalization on economic growth in addition to physical capital and labor. A basic double log-linear Cobb-Douglass production function was used to test the hypothesized link in this study. The following is a representation of the model:

$$GDP_t = f\left(GFCF_t^{\beta_1}, LBR_t^{\beta_2}, TR_t^{\beta_3}, GLOB_t^{\beta_4}\right)$$

where GDP is for gross domestic product, GFCF stands for gross fixed capital formation, LBR stands for the total number of jobs, TR stands for international tourism revenue, and GLOB stands for globalization. Furthermore, the coefficients of regressors are β1, β2, β3, and β4.

Equation 1 will be expressed in linear equation form to estimate the consequences of economic expansion:

$$GDP_{it} = \beta_0 + \beta_1 GDP_{it-1} + \beta_2 GFCF_{it} + \beta_3 LBR_{it} + \beta_4 TR_{it} + \beta_5 GLOB_{it} + \varepsilon_{it} \qquad (2)$$

To incorporate the growth impacts of regressors on the dependent variable, update Equation 2 in double logarithmic form. The model below examines the impact of globalization and tourism revenue on economic growth;

$$\ln GDP_{it} = \beta_0 + \beta_1 \ln GDP_{it-1} + \beta_2 \ln GFCF_{it} + \beta_3 \ln LBR_{it} + \beta_4 \ln TR_{it}$$

$$+\beta_5 \ln GLOB_{it} + \varepsilon_{it}$$

vwhere $\ln GDP_{it-1}$ is the lag term of the gross domestic product as an indicator of country i, in year t; $\ln GDP_{it}$ is the gross domestic product as an indicator of economic growth of country i, in year t; $GFCF_{it}$ is gross fixed capital formation as an indicator of country physical capital of country i, in year t; $\ln LBR_{it}$ is the total number of jobs as a labor indicator of country i in year t; $\ln TR_{it}$ is the country's tourist revenue of country i, in year t; and finally $\ln GLOB_{it}$ is the country's globalization of country i,, in year t. The natural logarithm is represented by ln, and the error term is represented by ε_it.

Then by integrating interaction variables in the model, the model for estimating the moderating impacts of globalization may be created and presented as follows:

$$\ln GDP_{it} = \beta_0 + \beta_1 \ln GDP_{it-1} + \beta_2 \ln GFCF_{it} + \beta_3 \ln LBR_{it} + \beta_4 \ln TR_{it} +$$

$$+\beta_5 \ln GLOB_{it} + \beta_6 (\ln TR_{it} * \ln GLOB_{it}) + \varepsilon_{it} \qquad (4)$$

In this model, globalization has been introduced to the last equation as a stand-alone variable as well as an interaction variable with tourism revenue. The interaction variable is expected to generate a statistically significant outcome, confirming the existence of globalization's moderating impact.

Data and Methodology

Data

This article uses annual data from 2009 to 2018 to explore the hypothesized link between the variables of interest. The gross domestic product (GDP; constant 2010 dollars), gross fixed capital formation (GFCF; as a percentage of GDP), total labor force participation rate (LBR: percent of the total population aged 15 and above), international tourism receipt (TR: current US dollars), and globalization index are the study's main variables (GLOB). The World Data Bank provided the GDP, GFCF, LBR, and TR figures (WDI 2021). In addition, the KOF Swiss economic institute provided the globalization index (KOF, 2021). This research will investigate the hypothesized relationship for Mediterranean countries, as indicated previously. Libya, Malta, Monaco, Spain, and Syria have been eliminated due to a lack of data. Table 1 shows the nations that were used in this study:

Table 1. List of the Countries

Albania	Cyprus	Israel	Morocco
Algeria	Egypt	Italy	Slovenia
Bosnia & Herzegovina	France	Lebanon	Tunisia
Croatia	Greece	Montenegro	Turkey

Methodology

In this study, a panel of 16 Mediterranean countries was assembled. In this study, system-GMM based methodologies will be used to test the model developed in the preceding section using panel data. Bundell and Bond (1998), Arellano & Bover (1995), Arellano & Bond (1991), and Holtz-Eakin et al. (1988) who developed system estimators, have all employed GMM estimators. System-GMM estimator has lately become popular in macroeconomics and finance research because it can account for variable bias (see Hoeffler, 2002). Descriptive statistics and correlations for all of the series under examination, as shown in Tables 2 and 3, respectively:

Table 2. Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
GDP	150	25.38822	1.820565	22.11769	28.70526
GFCF	150	3.044521	0.264936	2.404561	3.76293
LBR	150	3.946563	0.114592	3.725452	4.16247
TR	144	22.27429	1.479811	18.95717	25.01433
GLOB	150	4.291196	0.11066	4.028033	4.473832

Table 3. Correlation Matrix

	GDP	GFCF	LBR	TR	GLOB
GDP	1				
GFCF	-0.0168	1			
LBR	0.0129	-0.2872	1		
TR	0.7296	-0.3198	0.2808	1	
GLOB	0.3158	-0.5315	0.6945	0.6718	1

Result and Dıscussıon

From 2009 to 2018, the study looks at the direct impact of globalization and tourism revenue on economic growth in Mediterranean countries. In addition, this research looks at the effect of globalization in regulating economic growth. As shown in Table 6, the model estimations produce accurate results with no serial correlation – AR (2); also, Sargan's J test demonstrates the validity of the models chosen.

Table 6. Test Statistics

	Model with main effects	Model with main and interaction effects
Wald Chi test (p-value)	0.000	0.000
AR (1) test (p-value)	0.003	0.000
AR (2) test (p-value)	0.185	0.554
Sargan *J test (p-value)*	0.206	0.293

Note: Wald Chi test gives the p value for the joint significance of all variables along with cross-country fixed effects and year dummies.

In line with the statements of Seetanah, (2011); Faissa et al., (2008), and among the others, Table 4 shows the model estimates for equation 3, which show that gross fixed capital formation has a highly positive impact on economic growth (β= 0.068, p<0.01). Total employment contributes significantly to economic growth (β = 0.057, p<0.10). Tourism revenue has a statistically significant beneficial influence on the economy (β = 0.007, p<0.05). The same conclusion was reached in this study as the result in the Manzoor et al., (2019) investigates the impact of tourism on Pakistan's economic growth and employment. Globalization, on the other hand, had no visible impact on economic growth in Mediterranean Countries.

Table 4. System GMM Model Estimation for model with direct effects

Dep. Var. GDP	Coef.	Std. Err.	z	P>z
GDP (-1)	0.992703***	0.002197	451.95	0.0000
GFCF	0.068524***	0.012346	5.55	0.0000
LBR	0.057967*	0.032723	1.77	0.0760
TR	0.007224**	0.003235	2.23	0.0260
GLOB	-0.07741	0.047465	-1.63	0.1030
D2	-0.00837	0.00554	-1.51	0.1310

Table 4. System GMM Model Estimation for model with direct effects (cont.)

D3	-0.02004***	0.005408	-3.71	0.0000
D4	-0.02967***	0.005381	-5.51	0.0000
D5	-0.01572***	0.005385	-2.92	0.0040
D6	-0.00771	0.00537	-1.44	0.1510
D7	-0.0014	0.005275	-0.26	0.7910
D9	0.002738	0.005278	0.52	0.6040
D10	-0.00204	0.005303	-0.39	0.7000
c	-0.0516	0.114621	-0.45	0.6530

Note: (i) GDP denotes gross domestic product per capita; GFCF denotes gross fixed capital formation; LBR denotes labor force; TR denotes tourism revenue; GLOB denotes globalization. (ii) all the series are employed in their logarithmic form; (iii) *** and ** and * indicate rejection of the null hypothesis at 1%, 5% and, 10 % significance levels.

Finally, Table 5 shows the model estimates for equation 4, which show that gross fixed capital formation has a significantly positive effect on economic growth ($\beta = 0.074$, p<0.01). The influence of total employment on economic growth is statistically insignificant. Tourism revenue has a positive and statistically significant effect on economic growth, which is in line with expectations ($\beta = 0.016$, p<0.01). The same results were obtained in previous studies. For example, Cannonier and Burke (2019) studied the causal link between tourism and economic growth using panel data spanning three decades and focusing solely on Caribbean islands and found evidence of tourism enhances economic growth. Dwyer (2015) discussed many significant globalization implications in the context of tourism that has a moderating effect on the economy. Economic development, job possibilities, the diffusion of technical knowledge, the emergence of new markets and goods, new consumer values, environmental and socio-cultural changes are all examples of these effects. Although globalization has a negative and statistically significant direct effect ($\beta = -0.442$, p<0.01) has been detected in equation 4. On the other hand, the coefficient $(\ln TR_{it} * \ln GLOB_{it})$ is statistically significant and positive, it is argued that globalization has a moderating influence on the effect of tourism revenue on economic growth in Mediterranean countries ($\beta = 0.034$, p<0.01). According to Danish and Wang (2018), the tourist sector is rapidly developing and stimulating economic growth around the world in the recent period of globalization; although, the unavoidable environmental repercussions of tourism cannot be disregarded. Their empirical findings suggest that the tourism sector contributes greatly to economic growth, but that tourism damages environmental quality.

Table 5. System GMM Model Estimation for model with direct and moderating effects

GDP	Coef.	Std. Err.	z	P>z
GDP (-1)	1.003289***	0.00275	364.85	0.0000
GFCF	0.074246***	0.012848	5.78	0.0000
LBR	-0.04048	0.036862	-1.1	0.2720
TR	0.016485***	0.003619	4.56	0.0000
GLOB	-0.44277***	0.072383	-6.12	0.0000
TR X GLOB	0.034416***	0.004993	6.89	0.0000
D2	-0.01217**	0.00578	-2.11	0.0350
D3	-0.03213***	0.005884	-5.46	0.0000
D4	-0.04078***	0.005816	-7.01	0.0000
D5	-0.02585***	0.005782	-4.47	0.0000
D6	-0.01476***	0.00567	-2.6	0.0090

Table 5. System GMM Model Estimation for model with direct and moderating effects (cont.)

D7	-0.00395	0.00549	-0.72	0.4720
D9	-0.00792	0.005695	-1.39	0.1640
D10	-0.01933***	0.006051	-3.19	0.0010
c	0.779609***	0.169443	4.6	0.0000

Note: (i) GDP denotes gross domestic product per capita; GFCF denotes gross fixed capital formation; LBR denotes labor force; TR denotes tourism revenue; GLOB denotes globalization; TR X GLOB denotes the moderating effect of globalization. (ii) all the series are employed in their logarithmic form; (iii) *** and ** and * indicate rejection of the null hypothesis at 1%, 5% and, 10 % significance levels.

Conclusion

Since globalization is a multidimensional phenomenon, it has a positive effect in many areas such as economy, health, social life, culture, and law. Tourism is one of the important factors that can be affected by globalization and it has a favorable impact on the economy of the country. These consequences are listed as the impact on the balance of payments, the impact on income, the impact on employment, and the impact on the economy as a whole. This study investigates both the impact of tourism revenues, and globalization, and as well as the moderating role of globalization on the impact of tourism revenues on economic growth for the Mediterranean Countries by introducing an augmented Solow growth model over the period 2009–2018. The findings show that tourism revenues have a highly significant and favourable impact on economic growth, but there is a negative direct effect of globalization on economic growth in Mediterranean Countries. In contrast, the current study found that globalization has a considerable moderating influence on the impact of tourism revenues on economic growth in Mediterranean Countries. It can be concluded that the government should expand tourism to provide job opportunities, sources of income, and money for residents, as well as economic activities in the country. In addition, the government can help to boost the tourism business by offering incentives in the form of basic infrastructure such as a good transportation system, airports, and tax breaks for tourism-related businesses. Further research can be undertaken in other popular tourist destination countries for comparative purposes.

Declaration

All the authors have equally contributed to the article. There is no conflict of interest to be declared by the authors.

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