Tourism and Economic Growth in MENA Countries

السياحة والنمو الاقتصادي في دول الشرق الأوسط وشمال إفريقيا

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Abstract:

The present paper aims to analyze the causal relationship between tourism and economic growth in MENA countries. The study uses panel data for the period 1997 and 2019 and uses a panel-Granger causality analysis developed by Dumitrescu and Hurlin (2012) to assess the contribution of tourism makes to economic growth. The model uses GDP per capita as the dependent variable and tourist arrivals and tourism receipts as independent variables. The results show that there is no causal relationship between tourism and growth in the MENA group. They indicate also that this relationship depends on the country.

Key words: *Tourism, economic growth, MENA, panel data*

ملخص:

تهدف هذه الورقة إلى تحليل العلاقة السببية بين السياحة والنمو الاقتصادي في دول الشرق الأوسط وشمال إفريقيا. تستخدم الدراسة بيانات البانل للفترة 1997 و2019 وتستخدم تحليل السببية الذي وضعه Dumitrescu and Hurlin (2012) لتقييم مساهمة السياحة في النمو الاقتصادي. يستخدم النموذج الناتج المحلي الإجمالي للفرد كمتغير تابع والوافدين السياحيين وإيرادات السياحة كمتغيرات مستقلة. تظهر النتائج أنه لا توجد علاقة سببية بين السياحة والنمو في مجموعة الشرق الأوسط وشمال إفريقيا. كما تشير إلى أن هذه العلاقة تختلف حسب كل دولة.

الكلمات المفتاحية: السياحة ، النمو الاقتصادي ، منطقة الشرق الأوسط وشمال إفريقيا ، بيانات البانل

1. INTRODUCTION

Tourism is an essential factor in sustainable socio-economic development, as it has become a major source of income, job creation, and business opportunities in many developing countries (Balaguer et al., 2002; Papatheodorou, 1999). It also contributes to infrastructure development and the protection of cultural heritage (Breton, 2011). To this end, many countries have adopted tourism development policies to stimulate growth (Ruiz, 2013). The MENA region is no exception; it has seen a significant increase in international tourism receipts ($77 billion in 2017), which accounts for 6% of global revenue (UNWTO, 2019). This demonstrates the potential of the tourism sector to

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generate large levels of revenue and export earnings and promote regional stability.

In 2019, the Middle East saw much faster growth than other regions. In 2018, it welcomed 87 million international tourists, accounting for 6% of total global arrivals. This was an estimated 10% increase in international tourist arrivals to destinations in the region compared to 2017, above the global average (UNWTO, 2019). This has made the MENA zone a region recognized for its tourist attractiveness (FEMISE, 2013) and the emergence of new destinations such as Dubai, Sharm Elcheikh, and the Algerian Sahara.

Over the past two decades, the MENA region has seen a dramatic increase in tourism, with tourist arrivals rising from 30 million in 2000 to 87 million in 2019. Tourism has become a major contributor to economic growth and job creation in the region. According to the World Bank (2013), it directly contributed $107.3 billion to regional GDP (4.5%) and provided 4.5 million jobs (6.75% of total employment) in 2011.

In addition, the economic growth found in recent years has allowed the development of tourism in the region. However, the relationship between growth and tourism remains ambiguous. The nature and direction of causality between tourism and long-term sustainable growth deserve further clarification.

This study aims to highlight the relationship between tourism and economic growth in MENA. We examine the causal relationship between these two variables with the panel causality model over the period (1997-2019).

As a result, this paper is organized into four sections: a brief literature review on the relationship between tourism development and economic growth, and then we present the research methodology and data sources. Then, the results of the research. The conclusion will be presented in the last section.

2. LITERATURE REVIEW

The study of the long-term influence of tourism on economic growth has given rise to a current of thought that advances the so-called "tourism-led growth" hypothesis. According to this hypothesis, economic growth is not only a function of labor, capital, and export but is also influenced by the number of tourists entering the country. Indeed, studies on the analysis of the tourism-economic growth relationship support the existence of a positive effect of tourism development on economic growth (Balaguer and Cantavella-Jorda, 2002; Brida, Carrera, and Risso, 2008; Hye and Khan, 2012; Tang and Abosedra, 2016).

This positive association is found in some studies that concern both developed and developing countries (Balaguer and Cantavella-Jorda, 2002; Gunduz & Hatem-J, 2005; Shahzad, and al., 2017). For some small countries, with limited factors, tourism is particularly important for economic growth. As a result, they rely heavily on tourism (Katircioğlu, 2009; Thacker et al., 2012; Cannonier and Burke, 2019).

According to the results of these studies, tourism may be an engine of growth because it

contributes to GDP growth through the creation of employment and the generation of external trade. The researchers suggest that tourism positively affects long-term growth for the following reasons:

• It creates foreign trade gains that can finance imports;

• it facilitates the use of untapped resources;

• it creates employment;

• it contributes to the development of the infrastructure;

• it contributes to the transfer of new technology and skills;

• it creates positive links with other sectors of the economy (agriculture, industry, services).

• making a country's balance of payments deficit reduce provides an alternative source of foreign exchange income.

However, other empirical studies give mixed results (Morales, 2004, Leitão, 2010). In addition, the results differ from one group of countries to another. For example, Balaguer and Cantavella first studied the association tourism growth in Spain (1975-1997) using an analysis of the integration of Johansen-Juseliusco. They noted that the tourism sector contributed significantly to economic growth. They have shown that tourism influences growth through the multiplier effect.

For their part, Morales and Scarpa studied the relationship between tourism and economic growth in 21 Latin American countries during the period (1985-1998) using dynamic analysis of panel data (GMM dynamic panel data analysis). They found a significant positive effect of tourism on economic growth. These same authors also applied the general least squares model to panel data to explain the influx of foreign tourists. They suggest that the development of infrastructure, education, and security increases tourism in the region.

Using the co-integration method of heterogeneous panels, Lee and Chang (2008) examined the relationship between tourism and economic growth in two sample countries, OECD and non-OECD countries. They found a link between the two variables in both samples. A larger effect of tourism on growth is noted in non-OECD countries. The study also highlights the existence of unidirectional tourism causality on economic growth for OECD countries and two-way causality for non-OECD countries.

Brida, Carrera, and Risso (2008) used the Johansen-Juselius test, and the Granger causality test, to examine the long-term effect of tourism on economic growth in Mexico. The Johansen-Juselius test reveals the existence of a co-integration relationship between real GDP, tourism spending, and the real exchange rate. The Granger causality test shows that causality is unidirectional in tourism spending and the real exchange rate to real GDP. The same study also shows a positive effect on economic growth in both the short and long term.

Chang, Khamkaev, and McAleer (2010) used a database of 159 countries between 1989 and 2008. The model used reveals the relationship between economic growth and tourism. However, the instrumental variable estimate indicates that the effect of tourism on economic growth is greater in

countries with low levels of trade and investment openness.

However, some studies (Payne and Mervar, 2010; Lee, 2012) support the idea that economic development increases tourism. One of the reasons for this is that increased funding for infrastructure promotes tourism growth. Tourism grows in countries with healthy economies because this leads to more opportunities for participation and attractions. This is because positive economic conditions draw international attention and encourage more tourist spots to be created.

Other studies such as Shahbaz and al. (2016), and Chen and Chiou-Wei (2009) have shown that increased economic growth and increased tourism activity correlate in some countries. This suggests a mutual reinforcement of both tourism and economic growth. Additionally, some studies observed no significant correlation between tourism activity and economic growth in different countries (Ozturk and Acaravci, 2009; Brida Punzo Risso, 2011).

3. DATA METHODOLOGY AND RESULTS

3.1 Data

This study uses annual data on the MENA zone for the period (1997-2019). It includes the Gross Domestic Product per capita (GDP), international tourism receipts (RECEIPTS) in current US dollars as well as international tourist arrivals (T). The panel series was acquired from the World Bank database.

The selected panel is composed of Middle East and North African countries (Algeria, Bahrain, Egypt, Iran, Jordan, Kuwait, Lebanon, Morocco, Oman, Qatar, and Tunisia), some countries are removed from the study because of a lack of data the study.

The period of study extends from 1997 to 2019. This period has witnessed a significant development in tourism worldwide (WTTC Database, 2022). Unfortunately, in the same period, the MENA zone was the scene of upheavals and of political instability that affected the tourism sector, especially between 2009 and 2011. Furthermore, since 2020 the COVID-19 pandemic has slowed the flow of tourists in the region. However, the latest reports of the World Bank are optimistic about the future of tourism in this region.

3.2 Unit root test

To ensure the reliability of the regressions, it is recommended to test the order of integration of the series. A series is stationary if its statistical properties (mean and variance) are constant and do not change over time. Among the tests applied in the case of panel data, we find that of Levin-Lin-Chu (LLC) and of Im, Pesaran, and Shin (IPS). The authors (Hurlin and Mignon, 2004) often recommend the latter insofar as it takes into account the heterogeneity of the unit root.

The IPS test is a model with individual effects and no individual linear trends. In the absence of autocorrelation of residues, this model is written as follows:

$$\Delta y_{i,t} = \alpha_i + \rho_i y_{i,t-1} + \varepsilon_{i,t}$$

With:

α_i: the individual effect

ρi: the autoregressive root

The IPS model tests the null hypothesis H0: ρ_i = 0 for all i against the alternative hypothesis H1: ρi <0 for all i

The results of this test are reported in Table 01. They show that the variables were stationary at the first difference.

Table N° 01: Unit root test

Variable	Test	Level	First difference
LOGPIB	Constant	0.3734	0.0017
	Constant and trend	1.0000	0.0042
LOG_RECEIPTS	Constant	0.7828	0.0000
	Constant and trend	0.8119	0.0000
LOGT	Constant	0.2580	0.0081
	Constant and trend	0.6104	0.0054

Source: *Authors*

The unit root test shows that there may be at least one long-term relationship between the variables studied. Nevertheless, the approach used in this study does not require the passage through the cointegration test. Therefore, we will directly do the Toda Yamamoto causality test.

3.3 Cross-sectional dependence

One of the biggest obstacles to panel data econometrics is cross-sectional dependence (CSD). Therefore, it's important to diagnose the existence of such a problem in order to avoid artificially high estimates as noted by Bai and Kao (2006). Generally, the null hypothesis of the test of CD is "no cross-sectional dependence exists in data" Pesaran (2004).

Asymptotically, the test results are standard normal and efficient even when small sample sizes.

$$CD=\sqrt{\frac{2T}{N(N-1)}\left(\sum_{i=1}^{N-1}\sum_{j=i+1}^{N}\hat{p}_{ij}\right)}$$

Where T is the time interval, N is the number of cross-section units and $\hat{p}_{ij}$is the pairwise correlation between cross-sections.

Table N° 02: Cross-sectional dependence test

Test	Statistic	Prob
Pasaran CD	14.34057	0.0000

Source: *Authors*

According to the test results given in the table below, the null hypothesis is rejected for the MENA countries, indicating a strong cross-sectional dependence.

3.4 Causality test

In order to properly address the cross-sectional dependence and heterogeneity, the present study employs the panel Granger causality test developed by Dumitrescu and Hurlin (2012).

According to the existing literature, causality analysis relies on the following functional relationship: Growth= f(Tourism)

Where real GDP per capita is used as a proxy of growth and tourism receipts and international tourist arrivals as proxies of tourism.

This non-causality hypothesis uses the average of Wald's individual statistics in a heterogeneous panel according to the following equation:

$$y_{i,t} = \alpha_i + \sum_{l=1}^{l} \beta_{i,l} y_{i,t-l} + \sum_{l=1}^{l} \gamma_{i,l} x_{i,t-l} + \varepsilon_{i,t}$$

Where t and l is the number of delays.

This model tests the null hypothesis of homogeneous non-causality against the alternative hypothesis of the existence of at least one causal relation for a subgroup of individuals.

As a result, Dumitrescu and Hurlin propose the following statistic (called Wald):

$$W_{N,T}^{Hnc} = \frac{1}{N} \sum_{i=1}^{N} W_{i,T}$$

Table 03 reports the results of the analysis of Dumestrescu and Hurlin causality test. These show that in the case of MENA countries, there is no relationship between economic growth and tourism.

Table N ° 03: Dumitrescu and Hurlin causality test

Null Hypothesis:	**W-Stat.**	**Zbar-Stat.**	**Prob.**
DLOGT does not cause DLOGPIB	1.61864	-0.92470	0.3551
DLOGPIB does not cause DLOGT	2.41189	0.12898	0.8974
DLOG_RECEIPTS does not cause DLOGPIB	2.42681	0.14880	0.8817
DLOGPIB does not cause DLOG_RECEIPTS	2.43332	0.15744	0.8749

Source: *Authors*

A possible explanation for these results is that the majority of the MENA countries these countries are rich in raw materials. In addition, some of those countries have recent experience in tourism. Therefore, economic growth is an important way to invest in tourism (infrastructure, human development, service ...). Furthermore, the MENA region was marked during the period studied by several political events that negatively influenced their internal stability. This is probably not without consequences on the tourist flow in the region and the volatility of tourism-growth causality. The findings of this study are consistent with the results of a previous study by Can Tansel Tugcu (2014).

The table below demonstrates if it exists a causal relationship between tourism (proxied by tourism receipts and international tourist arrivals) and growth for the countries in consideration.

Table N ° 04: Causality test by country

	DLOG_RECEIPTS does not cause DLOGPIB		**DLOGPIB does not cause DLOG_RECEIPTS**		**DLOGT does not cause DLOGPIB**		**DLOGPIB does not cause DLOGT**	
	Pvalue	decision	P value	decision	Pvalue	decision	P value	decision
EGYPT	0.0252	Reject	0.9756	Accept	0.0250	Reject	0.2567	Accept
TUNISIA	0.0331	Reject	0.2240	Accept	0.0651	Accept	0.1565	Accept
ALGERIA	0.0908	Accept	0.7395	Accept	0.7540	Accept	0.0578	Accept
QATAR	0.2030	Accept	0.2359	Accept	0.8777	Accept	0.3629	Accept
KUWAIT	0.3628	Accept	0.2699	Accept	0.2616	Accept	0.0414	Reject
BAHRAIN	0.0000	Reject	0.0683	Accept	0.0089	Reject	0.2616	Accept
MOROCCO	0.7146	Accept	0.0482	Reject	0.9617	Accept	0.0000	Reject
SAUDI ARABIA	0.4833	Accept	0.0270	Reject	0.1885	Accept	0.0333	Reject
UAE	0.4823	Accept	0.6729	Accept	0.8853	Accept	0.6729	Accept
LEBANON	0.3961	Accept	0.9822	Accept	0.2035	Accept	0.9161	Accept
JORDAN	0.7965	Accept	0.6887	Accept	0.9654	Accept	0.1193	Accept
IRAN	0.4137	Accept	0.4565	Accept	0.7112	Accept	0.8141	Accept
OMAN	0.9613	Accept	0.1462	Accept	0.9075	Accept	0.8800	Accept

Source: *Authors*

Table N°04 shows that in terms of international tourism receipts, there is unidirectional causality from receipts to PIB in Egypt, Tunisia, and Bahrain. That means the growth hypothesis holds for those countries.

On the other hand, the table indicates unidirectional causality from PIB to receipts in Morocco and Saudi Arabia.

For Algeria, Qatar, Kuwait, UAE, Lebanon, Jordan, Iran, and Oman, the results demonstrate that no causality was found between PIB and tourism receipts.

Furthermore, when tourism is represented by international tourist arrivals, the growth hypothesis is valid for Egypt and Bahrain.

Kuwait, Morocco, and Saudi Arabia support the unidirectional causality from PIB to tourist arrivals. No causal relationship was detected for Algeria, Qatar, UAE, Lebanon, Jordan, Iran, and Oman.

These mixed results are consistent with the current literature. Chen and Chiou-Wei (2009) and Can Tansel Tugcu, (2014) note that tourism and economic growth don't always cause each other. Studies produce different results depending on each country's sectorial interrelations, historical context, and economic structures.

Another important point presented in Table N°4 is the diversity of support assumptions for MENA countries. For example, in the case of tourism receipts, Egypt and Tunisia confirm the growth hypothesis; Saudi Arabia and Kuwait support the unidirectional causality (from PIB to receipts and tourist arrivals), whereas Jordan supports the absence of causality. Possible explanations for these results may lie in countries' economic, political, and sociological structures. It can also attribute to the indicators employed in this study (tourism receipts and international tourist arrivals).

In the case of Egypt, Tunisia, and Bahrain the tourism–led growth hypothesis is held. This is due to the importance of tourism in their real economy. Indeed, according to the UNCTAD report of 2018, the contribution of tourism to GDP in Egypt was 11.9% and that of Tunisia 15.8%, which represents an interesting part of the national production process.

4. CONCLUSION

The objective of this study was to determine the causal relationship between economic growth and tourism in the MENA region using panel data over the period 1997-2019. The method used is that of the Dumitrescu and Hurlin (2012) causality test on panel data.

The results indicate, in some cases, causality goes from tourism to economic growth, and in other cases however, causality goes from economic growth to tourism. Among the factors influencing the positive relationship between tourism and economic growth, we can cite infrastructure development, investment in human capital, and government policies. Indeed, increased tourism activity can also lead to increased investment in infrastructure and other projects

that are necessary for sustained economic growth.

The causality between tourism and economic growth is also affected by the presence of tourist attractions. Countries with a long-standing history of tourism are likely to benefit from the influx of tourists, which in turn boosts economic growth. On the other hand, places without such a long history of tourism must rely on their resources to attract tourists, and economic growth is necessary to invest in tourism and sustain the inflow. Without economic growth, the development of the tourism sector will suffer. Therefore, it can be said that in countries with established tourist attractions, the causality runs from tourism to growth; whereas in countries with material attractions, it runs from growth to tourism.

Therefore, it is important to consider all these factors when assessing the potential for tourism-led growth in the MENA region.

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