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Tourism and economic growth nexus revisited: A panel causality analysis for the case of the Mediterranean Region

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HIGHLIGHTS

- Panel unit root and cross-sectional dependence techniques were employed
- Causal relationship between tourism and economic growth was tested
- Bi-directional causality found for tourism receipts and economic growth in Europe
- Bi-directional causality found for tourism expenditures and economic growth in Asia
- No causality found between tourism and economic growth in Africa

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ABSTRACT

Tourism is perceived as an important source of foreign exchange that is used for financing economic growth. This study offers a modern approach to tourism-led growth and investigates the causal relationship between tourism and economic growth in the European, Asian and African countries that border the Mediterranean Sea. The study uses panel data for the period 1998–2011, and adopts a panel Granger causality analysis developed by Dumitrescu and Hurlin (2012) to assess the contribution tourism makes to economic growth in each country. The results indicate that the direction of causality between tourism and economic growth depends on the country group and tourism indicator. Furthermore, the European countries are better able to generate growth from tourism in the Mediterranean region.

1. Introduction

Current trends in the economic environment motivate governments to find and subsidise productive sectors to solve macroeconomic problems such as growth, unemployment and fiscal or monetary instabilities. Tourism is one of the sectors that supports policy makers in overcoming these problems by supplying foreign exchange that can be used for financing foreign/domestic debts, creating regional employment opportunities that are crucial in coping with unemployment and promoting construction, transportation, accommodation and food/beverage sectors that, in turn, foster economic growth by providing added value. In addition, this sector also creates convergence across countries by transferring income from developed countries to developing ones. Thus, policy makers can benefit from tourism as a policy instrument for reducing regional welfare inequalities.

Despite these benefits, Balaguer and Cantavella-Jorda (2002) argue that, in a more traditional sense, tourism provides foreign exchange that is necessary for importing capital goods for production leading, in turn, to economic growth. From this perspective, the contribution of tourism to economic growth is called *the tourism-led growth hypothesis*, which is a simple reflection of *the export-led growth hypothesis*.

As in the *energy-growth nexus*, it is possible to construct *the tourism-led growth hypothesis* under four different lines (Ozturk, 2010). First, *the growth hypothesis* refers to a situation in which tourism plays a vital role in the economic growth process either directly and/or as a complement to other production factors. The growth hypothesis is supported if uni-directional causality is found from tourism to economic growth. In this case, policies aimed at subsidising tourism will have a positive impact on economic growth. Second, *the conservation hypothesis* means that economic growth is the dynamic that strengthens the tourism sector. The validity of the conservation hypothesis is proven if there is uni-directional causality from economic growth to tourism. In this situation, transferring

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subsidies from tourism to another sector will not have a negative impact on economic growth. Third, *the feedback hypothesis* denotes a reciprocal relationship between tourism and growth. The feedback hypothesis is supported if there exists bi-directional causality between tourism and economic growth. In the case of the validity of this hypothesis, tourism conservation policies may decrease economic growth performance, and similarly, chances of economic growth are reflected back to the tourism sector. Fourth, *the neutrality hypothesis* indicates that tourism has no effect on economic growth. The absence of causality between tourism and economic growth provides evidence for the presence of the neutrality hypothesis. In this context, by employing two different indicators (i.e., international tourism receipts and international tourism expenditures), this study aims at investigating the causal relationship between tourism and economic growth in the European, Asian and African countries that border the Mediterranean Sea by employing the panel Granger causality test of Dumitrescu and Hurlin (2012).

The paper is organised as follows. The next section reviews the literature and describes the novelty of the research. Section 3 presents the data, methodology and results. Finally, Section 4 concludes the paper.

2. Literature review

Upon an examination of the literature, it is noted that tourism-growth studies are classified under two strands. The first strand includes studies that investigate the causal relationship between tourism and economic growth by employing Granger causality test with time series data. Among these studies, Akinboade and Braimoh (2010), Balaguer and Cantavella-Jorda (2002), Belloumi (2010), Brida, Carrera, and Risso (2008), Chen and Chiou-Wei (2009), Durbarry (2002), Gunduz and Hatemi-J (2005), Tang and Abosedra (2012) and Tang and Tan (2013) support the existence of the growth hypothesis, while Dritsakis (2004), Kim, Chen, and Jang (2006) and Lee and Chien (2008) present evidence for the validity of the feedback hypothesis. On the other hand, Oh (2005), Ozturk and Acaravci (2009), Payne and Mervar (2010) and Tang and Jang (2009) contend that the neutrality and conservation hypotheses are also valid with respect to the tourism and growth relationship.

According to Po and Huang (2008), since time series data have some inefficiency in reflecting the long-run relationship between tourism and economic growth, the second strand of the literature is composed of studies that analyse the relationship between tourism and economic growth by using cross-section or panel data. In this context, Aslan (2013), Falk (2010), Holzner (2011), Lee and Brahmasrene (2013), Lee and Chang (2008), Po and Huang (2008), Proenca and Soukiazis (2008), Sequeira and Campos (2005) and Sequeira and Nunes (2008), and indicate that there can be mixed results on the relationship between tourism and economic growth that are sensitive to the specific country group being examined.

The present study, as a complement to the second strand of the literature, differs from the previous studies in several aspects. First, and most importantly, this study makes a theoretical contribution and classifies *tourism-led growth* under four different hypotheses (*i.e., growth, conservation, feedback and neutrality*). This modern classification, which is not found in any of the previous studies, makes the causal relationship more specific in terms of explaining why, in some countries, tourism drives economic growth while the reverse holds for some others. Second, considering the cross-sectional dependence and heterogeneity of the sample, the panel causality analysis that this study adopts is novel to the literature of *tourism-led growth*. In this regard, the present study employs a panel Granger causality analysis recently developed by Dumitrescu and Hurlin (2012), which is superior to former panel Granger causality tests in terms of giving efficient results even in panels with small sample sizes, being applicable in unbalanced and/or cross-sectionally dependent panels without requiring any particular estimation, and allowing different lag orders for each cross-section unit. Finally, the causal relationship between tourism and economic growth in the countries that border the Mediterranean Sea has never been studied in a panel context, with one exception. Aslan (2013) investigates the causal relationship between real GDP and tourism receipts in the 12 Mediterranean coastal countries by employing a panel causality analysis of Hurlin (2007). However, the present study has substantial departures from Aslan (2013). For instance, this study handles *tourism-led growth* through a modern approach composed of the growth, conservation, feedback and neutrality hypotheses, whereas the other only accounts for the traditional hypothesis. In addition, following Barro (2002) and Sala-i Martin (2002), who state that the best proxy for economic growth is the growth of per capita GDP, this study employs real GDP per capita growth to represent economic growth. Additionally, tourism is proxied by two indicators (i.e., tourism receipts and tourism expenditures) in this study, whereas the only indicator used in Aslan (2013) is tourism receipts. These differences are crucial for two reasons. First, because economic growth indicates the growth of real income, it is not appropriate to estimate the impact of tourism on the level of real income. Thus, using real GDP per capita growth as the dependent variable satisfies the necessary condition to estimate the causal impact of tourism on economic growth. Second, augmenting the number of independent variables may help deepen the understanding of the growth, conservation, feedback and neutrality hypotheses of *tourism-led growth*. Besides, to reduce the impact of heterogeneity over the sample, the present study takes the geographical positions into account and gathers 21 Mediterranean coastal countries into European, Asian and African panels. However, Aslan (2013) aggregates the sample (i.e., 12 Mediterranean coastal countries) into one panel, which may allow for a high degree of heterogeneity that can decrease the robustness of policy implications inferred from the findings. Moreover, disaggregating the sample into European, Asian and African components may be more efficient in terms of comparing the effects of tourism on economic growth and suggesting a policy related to the tourism and growth nexus. Finally, the methodology followed in this study is a latter version of the methodology used in Aslan (2013), and as such, it allows each cross-section unit to have different lag orders. According to Dumitrescu and Hurlin (2012), this is one of the preconditions for proposing a panel Granger causality analysis that accounts for cross-sectional dependence. Avoiding cross-sectional dependence is another way of ensuring the robustness of policy implications. Assuming the sample countries are likely to be cross-sectionally dependent, it seems to be a good choice to employ Dumitrescu and Hurlin (2012) rather than Hurlin (2007). Therefore, in the following section, the causal relationship between tourism and economic growth in the Mediterranean coastal countries is being investigated.

3. Data, methodology and results

3.1. Data

The data set includes annual real GDP per capita growth (*EG*), international tourism receipts (*RCPT*) in current US$ and international tourism expenditures (*EXP*) in current US$ for the period 1998–2011 in the European, Asian and African countries in consideration.[1] The panel series were attained from the World

[1] The European countries are Albania, Bosnia and Herzegovina, Croatia, France, Greece, Italy, Malta, Monaco, Montenegro, Slovenia, Spain and Turkey. The Asian countries are Cyprus, Israel, Lebanon and Syria. The African countries are Algeria, Egypt, Libya, Morocco and Tunisia.