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Industry level analysis of tourism-economic growth in the United States

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ABSTRACT

We investigate the relationship between economic growth and six tourism-related sub-industries (accommodation, air transportation, shopping, food and beverage, other transportation, and recreation and entertainment) in the United States in 1998–2017. Except for the lodging and the food and beverage sectors, no long-run relationship exists between other tourism sub-industries and economic growth. We uncover a unidirectional Granger causality from economic growth to each of the sub-industries. Causality is also found between the tourism industries but predominantly from industries providing local offerings (food, entertainment, shopping) to those delivering cross-destination goods and services. Our results suggest that tourism investment could be successful in the long-run even during periods of economic stagnation. In the short-run, however, tourism sectors could benefit from economic growth and tourism-related investment should take a cue from the general economy. Additionally, tourism-related investment and marketing efforts in the U.S. may wish to focus on the food, shopping, and leisure sectors.

1. Introduction

The United States is an important player in the global tourism industry, attracting millions of international visitors per year. Tourists are drawn to the U.S. for historic sites, national parks and monuments, amusement and theme parks, other recreational and entertainment attractions, as well as culinary, business, health and shopping options. One feature that makes the U.S. a preferred destination for many international tourists is the quality of its tourism goods and services. In 2015, the World Economic Forum constructed the Tourism and Travel Competitiveness Index, a comprehensive index that measures the quality of tourism supply in each destination country. The U.S. performed strongly in the infrastructure and natural and cultural resources components of the index, particularly with air transportation and tourist service infrastructure, world heritage sites, as well as cultural, entertainment, and sports attractions (World Economic Forum, 2015). Of the 114 countries considered in the index, the U.S. is ranked first in the Americas and fourth globally after Spain, France, and Germany.

Tourism is currently the most significant service sector within the U.S. economy. In 2017, international and domestic tourists together spent over $1035.7 billion direct travel expenses in the U.S., resulting in $165 billion total tax revenues and an additional $2.4 trillion indirect and induced expenses (US Travel Association, 2018b). In total, the tourism sector created approximately $84 billion surpluses in 2016 (US Travel Association, 2017), making it the few industries producing positive trade balance for the U.S. economy. The tourism industry is also among the largest employers within the U.S., generating nearly 7 million indirect and induced jobs in addition to the 8.8 million people directly employed by the industry (US Travel Association, 2018b).

Many studies have investigated the relationship between tourism and economic growth, often finding inconsistent and sometimes even conflicting results. One strand of literature argues for tourism-led economic growth hypothesis and that the government should engage in tourism development to foster the economic development, while other studies report evidence that the causality runs either from economic growth to tourism or bi-directionally between the two variables. The reasons behind these inconsistencies are multifaceted, with researchers often pointing to the differences in the country considered, the sample period examined, and the empirical methods employed in the analyses.

Mill and Morrison (2002) and Tang and Jang (2009) argue that the treatment of all tourism-related businesses as a homogenous industry might also account for the inconsistent results found in previous studies. When measuring the performance of the tourism industry, most of the existing studies have used either the overall receipt or the number of patrons to the industry without differentiating between various categories of activities within the sector. Unlike other industries that offer goods with similar characteristics and quality, the tourism industry consists of many sub-industries each providing customers with distinct services such as lodging, dining, transportation, entertainment, etc. These sub-industries may perform differently even under the same

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economic environment due to the nature of their businesses and likewise may have different relationships with the overall economic growth.

Chen (2007) is the first to empirically examine the tourism-economic growth nexus at the sub-industry level by investigating the relationship between the stock prices of tourism firms (hotels, airlines, and travel agents) and economic development in Taiwan and China. They find that the interactions between the stock performance and GDP vary substantially across firms, suggesting the possible existence of differential causal patterns between GDP and individual tourism sub-industries. Tang and Jang (2009) extend the study of Chen (2007) by examining the relationship between aggregate sales revenue from four tourism-related industries (airline, casino, hotel, and restaurant) and the economic growth in the U.S. Although the relationship between tourism and GDP is consistent among the four sub-industries in the short-run, they found that the results differ in the long-run—while the airline industry co-moves with GDP, none of the other three industries have a long-run relationship with the economic growth.

This study seeks to revisit the inquiry of Tang and Jang's (2009) sub-industry level analysis by investigating the relationship between economic growth and the real outputs of six major tourism-related industries in the U.S., including food and beverage, recreation and entertainment, air transportation, shopping, accommodations, and other transportation-related commodities. We test the long-run relationship between real GDP and the performances of the six sub-industries using the bounds test of Pesaran, Shin, and Smith (2001), and the causality between each pair of variables using the Toda and Yamamoto (1995) Granger causality test from 1998 to 2017. These two methods are also used to explore the long- and short-run relationships among the six tourism-related sub-industries.

We find that GDP co-moves with the lodging and the food and beverage industries in the long-run, but does not cointegrate with the other four sub-industries. Within the tourism sector, we find that except between other transportation and the air transportation industries, no long-run relationship exists between the remaining pairs of industries. For the short-run, we uncover a unidirectional causality from GDP to each of the six tourism industries. We also observe a meshwork of unidirectional causal interrelationships between the tourism-related sub-industries. Taken together, the performances of the food and beverages, recreation and entertainment, and shopping industries precede those of the accommodation, air, and other transportation industries.

Our paper complements previous sub-industry level analyses of the tourism-economic growth nexus, an area that remains under-investigated. While our results overall agree with the economic-driven tourism growth hypothesis found in previous studies for the U.S., we find that industries providing local offerings (e.g., food and beverage, recreation and entertainment, and shopping) are the leading sub-industries within the tourism sector, perhaps because tourists expenditures on these industries are more sensitive to changes in income and the underlying economic activities than those of industries providing cross-destination offerings. Marketing efforts to promote tourism growth may wish to take a cue from, and perhaps even focus on these sub-industries since their performances anticipate the outputs of other sub-industries. Additionally, we find that the performance of the airline industry tends to lag other sectors, perhaps because of the longer planning horizons of trips involving air transportation than trips to nearby destinations that do not require air travel. Investment decisions in the airline sector should, therefore, consider the performance of other sub-industries in addition to the general economy.

The remainder of the paper is structured as follows. Section two provides a brief review of the tourism-economic growth literature. Sections three and four describe the data and empirical methods used for the analysis, respectively. Results are presented in section five, and the last section concludes the paper.

2. A brief review of the literature

An extensive literature has investigated the relationship between tourism and economic growth for various countries, often finding the relationship to vary depending on the specific country examined, the time periods considered, and the methods employed. One strand of literature argues for tourism-led economic growth (TLEG) hypothesis that views tourism as a strategic factor for long-term domestic economic growth, generating direct, indirect, or induced effects on other productive sectors (Tugcu, 2014). The TLEG hypothesis has found a wide support in empirical studies, including Balaguer and Cantavella-Jorda (2002) who reported a unidirectional causality from tourism to economic growth in Spain, Brida, Lanzilotta, Lionetti, and Risso (2010) who found a positive effect of tourism expenditure on GDP per capita in Uruguay, and Dritsakis (2012) that confirmed the beneficial impact of tourism on GDP in seven Mediterranean countries. Similar results are found in Lanza, Temple, and Urga (2003) for 13 OECD (Organization for Economic Co-operation and Development) countries, Durbarry (2004) for Mauritius, Gunduz and Hatemi-J (2005) for Turkey, Proença and Soukiazis (2008) for several southern European countries, Brida and Risso (2010) for South Africa, Belloumi (2010) for Tunisia, and Katircioğlu (2010) for Singapore, among others. In fact, of the 87 empirical studies reviewed, Pablo-Romero and Molina (2013) reported that 55 studies found evidence in support of the TLEG hypothesis.

Contrary to the TLEG hypothesis, the second stream of literature asserts that economic fluctuations are the driving force behind the tourism sector, which is often referred to as the economic-driven tourism growth (EDTG) hypothesis. The reasoning underpinning the EDTG assertion is that resource availability, infrastructure development, and political stability create an ambient economic climate that promotes tourism activities. For instance, using the Engle and Granger two-stage approach and bivariate vector autoregressive model, Oh (2005) found that while no cointegration (i.e., long-run equilibrium) exists between tourism and economic growth, economic growth Granger-causes tourism in South Korea but not vice versa in the short-run. Empirical analyses by Lee and Chien (2008), Payne and Mervar (2010), and Odhiambo (2011) provide further evidence in support of the EDTG hypothesis in various other countries.

A third hypothesis, termed the feedback or reciprocal hypothesis, argues that there exists a bi-directional feedback relationship between tourism and economic growth. For instance, Dritsakis (2004) found that tourism, economic growth, and real exchange rates are cointegrated and that a bi-directional causal relationship exists between tourism and economic growth in Greece in 1960–2000. The reciprocal relationship between tourism and economic growth was also obtained for Taiwan by Kim, Chen, and Jang (2006) and Lee and Chien (2008), for Malaysia by Tang (2011), and for Spain by Perles-Ribes, Ramón-Rodríguez, Rubia, and Moreno-Izquierdo (2017). On the contrary, some researchers have found evidence in support of a fourth hypothesis that no causality exists between tourism and economic growth (e.g., Katircioglu, 2009).

In the present study, we seek to revisit the tourism-economic growth nexus in the U.S., using sub-industry level data that disaggregate the tourism sector into several related industries. Despite the substantial number of papers on the tourism-economic growth relationship, most of the existing work focuses only on the overall performance of the tourism sector (as measured by the overall receipts or total visits), without accounting for the heterogeneous nature of different sub-industries. The two sub-industry level analyses, i.e., Chen (2007) and Tang and Jang (2009), suggest the possible presence of a non-uniform relationship between economic growth and tourism sub-industries. Here, we expand the four categories used in Tang and Jang (2009) to six sub-industries, the performances of which are more clearly defined and accurately measured. Methodologically, we employ the improved cointegration and causality tests that avoid certain drawbacks of the conventional methods. The data and methods used in the analysis allow us to more accurately gauge, as well as providing an updated