Contribution of disaggregated tourism on Thailand's economic growth

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ABSTRACT

The objective of this research was to evaluate whether expansion of the tourism industry has contributed to Thailand's economic growth, and vice versa. This study used international tourist arrivals from different continents in order to pinpoint which of these continents contributes the most to Thailand's economic growth. Time series techniques including cointegration and Granger causality tests were used to test the hypothesis of tourism-led economic growth in Thailand. The results showed that tourists from South Asia led Thailand's economic growth, and Thailand's economic growth also increased the number of tourists from Oceania. The results from this study suggest that in order to promote tourism industry, policy-makers should place emphasis on the Oceania and South Asian markets. Therefore, study on the behavior and preferences of tourists from these continents would help to find ways to increase the numbers of tourists from these regions.

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Introduction

The tourism industry is an important sector in Thailand since it is considered by the Thai government as one of the most important industries for income generation. The Tourism Authority of Thailand reported that since 2014, Thailand has received around THB 2,000 million per year in tourism receipts ranking it the 10th highest income source for the tourism industry in any country (Ministry of Tourism and Sports, 2016). The inflow of funds generated from tourism-related activities led to the creation of around 2.4 million jobs in 2015, which represents 6.8 percent of total employment. Therefore, development of the tourism sector is one of the main points in Thailand's economic development plans. It is worth mentioning that the

strategies used to develop the tourism sector in the hope of generating income for the Thai economy would be better served if there is a full understanding of the relationship between tourism expansion and economic growth. However, at the moment, such understanding has not been fully investigated in Thailand.

Expansion of the tourism sector has been linked to economic growth in several ways. According to McKinnon (1964), foreign exchange earnings from tourism are used to purchase productive capital goods, which in turn are used to increase economic growth. Tourism has also been found to increase employment, income, and tax revenues (Archer, 1995; Belisle & Hoy, 1980; Davis, Allen, & Consenza, 1988; Durbarry, 2002; Khan, Seng, & Cheong, 1990; Uysal & Gitelson, 1994; West, 1993). Furthermore, according to Brida and Pulina (2010), growth in the tourism sector stimulates investment in new infrastructure and generates employment. Therefore, it is generally hypothesized that tourism expansion may lead to economic growth.

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Investigation of tourism-led economic growth has yielded varied results in the literature. Studies using aggregated tourist data, including Akinboade and Braimoh (2010), Belloumi (2010), and Katircioglu (2009), have found evidence of the tourism-led economic growth hypothesis. Several studies have found evidence that economic growth leads to tourism expansion (Arslanturk, Balcilar, & Ozdemir, 2011; Ghosh, 2011; Katircioglu, 2009; Oh, 2005; Wang, 2010). Similar to the aforementioned studies, Untong (2014) used aggregated tourist data to test for tourism-led economic growth in Thailand, and found evidence that tourism expansion did help economic growth in Thailand. However, his study only provided a general indication that tourism has led economic growth since it used aggregated data. Utong's study, however, did not provide any indications on whether Thailand's economic growth equally benefits from expansion of tourism from different markets.

The use of aggregated tourist data may cause bias, since tourist arrivals from different countries may either contribute unevenly or not at all (Tang & Tan, 2013; Tang, 2010, 2011). Moreover, the results of these studies may offer little guidance for policy-makers when developing strategies and policies for the tourism industry (Oh, 2005). On the other hand, formulating policies in the tourism industry based on findings from studies using dis-aggregated data (country or continental level) may be more efficient because such studies would pinpoint which tourist markets contribute to the economic development of a country.

On a side note, a common practice used to test the tourism-led economic growth hypothesis has been to use Gross Domestic Product (GDP) as a measure of economic growth. There are several disadvantages to this approach. For instance, GDP is only available on a quarterly or yearly basis, which limits the quantity of data that can be used to test for tourism-led economic growth. Furthermore, using the GDP from many years back may not reflect the current situation of the tourism industry which has changed from time to time. Tang (2010, 2011) posited that using the Industrial Produc-tion Index (IPI) as a proxy of economic growth would be better since it is available on a monthly basis. Studying the relationship between economic and tourism growth using high frequency data has the advantage that it can capture changes between the two variables in the short run. There-fore, it is reasonable to use IPI as a proxy of economic growth (Lean & Tang, 2010; Seo, Sung, & Larry, 2009; Tang & Tan, 2013; Tang, 2010, 2011).

To the best of our knowledge, investigation of the rela-tionship between international tourism and Thailand's economic growth using disaggregated tourist markets and monthly IPI as a proxy of economic growth has yet to be undertaken. Therefore, this study aimed to shed light on the relationship between economic growth in Thailand and tourist expansion by analyzing how tourists arrivals from different continents affect the economic growth of Thailand. Knowing which continent contributes more to economic growth can help policy makers develop policies that attempt to increase the flow of those international tourist continents which will further improve the country's economic growth.

Methodology

Data

The data used in this study included Thailand's IPI and international tourist arrivals per continent (Tr) from January 2008 to November 2015. Thailand's IPI was calcu-lated based on Laspeyre's index using Thailand's produc-tion extracted from the Office of Industrial Economics of Thailand. In turn, the numbers of top-ten international ar-rivals was extracted from the Ministry of Tourism and Sports, and were divided into four continents—East and Southeast Asia (China, Malaysia, Japan, Korea, Singapore, and Laos), South Asia (India), Europe (the United Kingdom and Russia), and Oceania (Australia). The data was seasonally adjusted in order to reduce biased estimations caused by seasonality, and thereafter, all variables were transformed into logarithmic form.

Time Series Properties of Data

It is important to study the time series properties of the data since these properties will affect the appropriate econometric specification used to test the tourism-led economic growth hypothesis (Tang & Jang, 2009a,b). The time series properties that were uncovered include the order at which the variables are stationary, and the exis-tence of a long-run relationship (cointegration) between the variables. The following procedure was used to inves-tigate the time series properties. First, all the time series data were transformed into natural logarithmic forms, and then Augmented-Dickey Fuller (ADF) (Dickey & Fuller, 1979, 1981) tests were used to find at what order each in-dividual time series was stationary. If the ADF tests showed that the variables were characterized by an I (1) process, then Johansen's cointegration (Johansen & Juselius, 1990; Johansen, 1988) test was used to find whether there was a long-run relationship between IPI and Tr.

Econometric Specification

An important issue to consider when investigating causal relationships between a set of variables is that even if causality among the variables is found, questions about the direction of the causality are raised (Tang & Jang, 2009a,b). This is very important because in the literature, several researchers have provided valid grounds for both the tourism-led growth hypothesis and the economic-led tourism growth hypothesis (Akinboade & Braimoh, 2010; Belloumi, 2010; Katircioglu, 2009). Furthermore, several studies have not only found evidence of economic-led tourism growth and tourism-led economic growth, but also a bidirectional relationship between economic and tourism growth (Arslanturk et al., 2011; Ghosh, 2011; Katircioglu, 2009; Oh, 2005; Wang, 2010). Consequen-tially, testing for causality between tourism and economic growth using a single equation method that assumes that one of the variables is exogenous would not be valid.

An alternative to investigate causality between eco-nomic growth and tourism growth is to use vector autore-gressive (VAR) models. VAR models allow for all variables to