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Does tourism effectively stimulate Malaysia's economic growth?

Chor Foon Tang [a, *], Eu Chye Tan [b]

[a] Centre for Policy Research and International Studies, Universiti Sains Malaysia, 11800 USM, Penang, Malaysia
[b] Department of Economics, Faculty of Economics and Administration, University of Malaya, 50603 Kuala Lumpur, Malaysia

HIGHLIGHTS

- We examine the validity of the tourism-led growth hypothesis in Malaysia.
- We test the hypothesis within the Solow growth model.
- We find that tourism Granger-causes economic growth in the short- and long-run.
- Tourism is catalyst for Malaysia's economic growth.
- Policies to promote inbound tourism could effectively stimulate economic growth.

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ABSTRACT

This study attempts to further verify the validity of the tourism-led growth hypothesis in Malaysia using a multivariate model derived from the Solow growth theory. It employs annual data from 1975 to 2011. We find that economic growth, tourism and other determinants are cointegrated. Specifically, tourism has a positive impact on Malaysia's economic growth both in the short-run and in the long-run. The Granger causality test indicates that tourism Granger-causes economic growth. All this provides the empirical support for the tourism-led growth hypothesis in Malaysia. In light of this, any policy initiative that promotes tourism could contribute to Malaysia's economic growth.

1. Introduction

Traditionally, economic prosperity has been linked to growth in the agricultural and manufacturing sectors as well as the influx of foreign capital. Whilst, the role of tourism in economic growth has often been downplayed and regarded as a non-growth oriented sector, hence attracting little attention of both economists and policymakers (Papatheodorou, 1999). Today, tourism has become one of the rapidly growing services sectors of the world. This has prompted the Malaysian government to set tourism as a key sector for invigorating Malaysia's long-term economic growth. Specifically, the 10th Malaysia Plan (2011–2015) has identified the tourism sector as one of the National Key Economic Areas (NKEAs) for transforming Malaysia into a high income nation by 2020.

Nevertheless, as globalisation gathers momentum, views also exist that tourism may in actual fact not significantly stimulate long-term economic growth as many informal agents bring in illegal workers to Malaysia using tourism as a channel. It may be hard to differentiate between genuine tourists and those who actually arrive in search for jobs (Kassim, 1997). In 1995, only 600 thousand foreign workers in Malaysia were illegal. The number subsequently increased to 2.1 million as observed during the implementation of the Illegal Immigrant Comprehensive Settlement Programme (Augustin & Lee, 2012). In view of these counterfactual data, doubts have arisen regarding the appropriateness of emphasising on tourism as a key sector for driving long-term economic growth in order to attain the high income status by 2020. As not all tourist arrivals involve genuine tourists, higher rates of arrivals do not necessarily mean higher rates of tourism earnings. In fact, UNWTO (2012) noted that Malaysia's ranking in terms of tourism earnings was much lower than the ranking by tourist arrivals. In view of these reservations, there is an urgent need for a more accurate empirical assessment of the actual impact of tourism on Malaysia's economic growth.

From our reading of earlier studies on the relationship between tourism and economic growth, we find that this topic has attracted a lot of interest amongst researchers, particularly after the study of Balaguer and Cantavella-Jordá (2002). Recently, Brida, Cortes-

* Corresponding author. Tel.: +60 4 653 2044; fax: +60 4 658 4820.
E-mail addresses: tcfoon@usm.my, tcfoon@gmail.com (C.F. Tang).

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Jimenez and Pulina (2014), Castro-Nuño, Molina-Toucedo, and Pablo-Romero (2013), and Pablo-Romero and Molina (2013) have published three comprehensive surveys on the relationship between tourism and economic growth. To conserve space, we would only review some selected studies and those related to Malaysia. For example, Narayan and Prasad (2003), Dritsakis (2004), Brida, Carrera, and Risso (2008), Katircioğlu (2009, 2011), Tang and Abosedra (2014a, 2014b), Hye and Khan (2013), Al-mulali, Fereidouni, Lee, and Mohammed (2014), Bouzahzah and El Menyari (2013), and Jalil, Mahmood, and Idrees (2013) discovered that tourism affects economic growth. Therefore, they concluded that the tourism-led growth hypothesis is valid. However, Oh (2005), Payne and Mervar (2010), and Lee (2012) argued that it is economic growth that affects tourism rather than the other way round. Hence, these studies instead support the growth-led tourism hypothesis.

As far as Malaysia is concerned, several studies have been conducted to analyse the role of tourism in economic growth as summarised in Table 1. Generally, the table shows that the causal relationship between tourism and economic growth in Malaysia remains a controversial subject. For example, Nanthakumar, Ibrahim, and Harun (2008), Kadir, Nayan, and Abdullah (2010) and Tang (2011a) found that tourism expansion is less likely to promote economic growth. Whilst, Lau, Oh, and Hu (2009), Lean and Tang (2010), Othman and Salleh (2010), Kadir and Karim (2012), Othman, Salleh, and Sarmidi (2012), Cheam, Mahmood, Abdullah, and Ong (2013), and Tang (2013) discovered that tourism expansion could play an important role in stimulating Malaysia's economic growth. All these studies however have weaknesses that this study aims to address. They mainly involved the use of bi-variate models and/or ad-hoc model specifications which are not based upon any theoretical model.[1] Although estimation via ad-hoc model specification is relatively easy and simple, it is hard to interpret the results if they are not based upon any economic theory. Apart from these, none of these studies has considered the possible impact of structural breaks in unit root testing. According to Perron (1989), standard unit root tests may have low power when data series contain structural break(s). Therefore, the results of these past Malaysian studies are highly questionable and may be inaccurate.

Motivated by the aforementioned shortcomings, the goal of this paper is to re-investigate the impact of tourism expansion on Malaysia's economic growth in a multivariate framework. Unlike the earlier studies, we contribute to the literature by analysing the role of tourism in Malaysia's economic growth based upon the neoclassical growth model. Various econometric approaches are employed in this study. First, apart from the standard augmented Dickey-Fuller (ADF) unit root test, we also employ the endogenous break unit root test developed by Zivot and Andrews (1992) to determine the order of integration of each series. Second, the system-wide cointegration technique proposed by Johansen (1988) and Johansen and Juselius (1990) is used to determine the presence of long-run equilibrium relationships amongst economic growth, tourism and other determinants. Gonzalo (1994) revealed that this technique performs better than the other cointegration techniques even when the disturbance term is non-spherically distributed and the lag structure is mis-specified. In addition, Tang (2011b) noted that the Johansen-Juselius cointegration test is not sensitive to the choice of the dependent variable because it treats all variables as endogenous. Lastly, the causal relationship between tourism and economic growth in Malaysia will be ascertained by the Granger causality test.

The rest of this paper is organised as follows. The next section will explain the theoretical model and the data used in this study. Section 3 will discuss the econometric procedures followed. The empirical findings will then be presented in Section 4 followed by concluding remarks in Section 5.

Table 1
Summary of published studies on the tourism-growth nexus in Malaysia.

Authors	Sample period	Main methodologies	Main findings	
			Cointegrated	Direction of causality
Nanthakumar et al. (2008)	1980–2007	Johansen test; Granger causality	No	EG→TOUR
Lau et al. (2009)	1972–2004	Johansen test; Granger causality	Yes	TOUR→EG
Kadir et al. (2010)	1994:Q1–2004:Q4	Johansen test; Granger causality	Yes	EG→TOUR
Lean and Tang (2010)	1989:M1–2009:M2	TYDL Granger causality	–	TOUR↔EG
Othman and Salleh (2010)	1976–2005	Johansen test; Granger causality	Yes	TOUR→EG
Tang (2011a)	1995:M1–2009:M2	ECM-based *t*-test; Granger causality	Yes	EG→TOUR
Kadir and Karim (2012)	1998–2005	Pedroni test; Panel Granger causality	Yes	TOUR→EG
Othman et al. (2012)	1970–2010	ARDL; Granger causality	Yes	TOUR↔EG
Cheam et al. (2013)	1974–2010	Johansen test; Granger causality	Yes	TOUR↔EG
Tang (2013)	1974–2009	ARDL; Granger causality	Yes	TOUR↔EG
Tang and Tan (2013)	1995:M1–2009:M2	Combined cointegration test; Recursive Granger causality	Yes	TOUR→EG

Notes: TOUR = Tourism and EG = GDP or output growth. → represents uni-directional causality running from the variable on the left to the right, whereas ↔ represents bi-directional causality.

2. Theoretical model and data

In this study, we use the following Solow's (1956) growth framework derived from the Cobb–Douglas production function to justify the role of tourism in economic growth:

$$\ln\left(\frac{Y_t}{L_t}\right) = \beta_0 + \theta \ln Z + \frac{\alpha}{1-\alpha}\ln s_t - \frac{\alpha}{1-\alpha}\ln(n+g+\delta)_t \qquad (1)$$

where ln denotes the natural logarithm, Y_t is the output, L_t is total labour, s_t is savings, n is the population growth rate, δ is the rate of depreciation of capital stock, g is the growth rate of technical progress and Z is a vector of factors that affect the level of technology and efficiency in the economy. In this study, Z represents tourism expansion and an institutional factor such as political stability. Therefore, the long-run growth model used in this study can be written as:

$$\ln GNP_t = \beta_0 + \theta_1 \ln TOUR_t + \theta_2 \ln PS_t + \beta_1 \ln GNS_t + \beta_2 \ln(n+g+\delta)_t + \varepsilon_t \qquad (2)$$

where ε_t is the disturbance term. GNP_t is per capita real gross national product (GNP), $TOUR_t$ per capita real tourism receipts, PS_t is polity2 which is an overall measure of political stability, GNS_t is per capita real gross national savings (GNS), n is the growth rate of population, g is the growth rate of technical progress and δ is the

[1] Studies of Lau et al. (2009), Lean and Tang (2010), Othman and Salleh (2010), Tang (2011a), Kadir and Karim (2012) and Tang and Tan (2013) used bi-variate models which may be subject to the omission of relevant variables bias problem as noted in Lütkepohl (1982).