

Structural breaks, tourism development, and economic growth: Evidence from Taiwan

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Abstract

Our paper differs from previous studies by examining the issue of whether regime changes have broken down the stability of the long-run relationships between tourism development and real GDP in Taiwan for the 1959–2003 period. We empirically investigate the co-movements and the causal relationships among real GDP, tourism development, and the real exchange rate in a multivariate model. We use two different tourism variables—international tourism receipts and number of international tourist arrivals. To employ the unit root tests and the cointegration tests allowing for a structural break, the empirical evidence clearly shows that the causality between tourism and economic growth is bi-directional. Lastly, the international and cross-strait political change, economic shocks, and the relaxing of some tourism control and policies would break down the stability of the relationships between tourism development and economic growth. Overall, we do find the structural breakpoints, and they look to match clearly with the corresponding critical economic, political, or tourist incidents.

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1. Introduction

The Asia Pacific region has become a hastily growing tourism destination and has even exceeded the Americas to become the world's second largest tourist-receiving region since 2001. As part of the emerging market in tourism, Taiwan has an abundance and diversity of natural and cultural resources, offering great potential for the development of tourism. The main purpose of this paper is to investigate whether regime changes have broken down the stability of the long-run relationship between tourism development and real GDP in Taiwan. We empirically examine the co-movements and the causal relationships among real GDP, tourism development, and the real exchange rate in a multivariate model. To employ the unit root tests and the cointegration tests allowing for a structural break, the empirical evidence clearly shows that the causality between tourism and economic growth is bi-directional. Moreover, international and cross-strait political changes, economic shocks, and relaxing of some tourism control and policies would break down the stability of the relationship between tourism development and real GDP.

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Table 1
International tourism revenue and number of tourists for Taiwan

Year	International tourism revenue (US\$ 1000)	No. of tourists
1960	1,477	23,636
1970	81,720	472,452
1980	988,000	1,393,254
1990	1,740,000	1,934,084
2000	3,738,000	2,624,037

Taiwan has always been a great travel destination for business travelers and tourists from neighboring countries. Over the period 1960–2000, total tourist arrivals to Taiwan increased from 23,636 to 2,624,037. International tourism revenue of Taiwan increased from US\$ 1.477 million in 1960 to US\$ 3.738 billion in 2000 (see Table 1). Further analysis of overseas visitors by country shows that came from countries within the neighboring Asian region, which provided nearly 77% of all visitors in 2004. The top five of Taiwan's tourist-source residences in 2004 were Japan, Hong Kong, and Macau region, United States, South Korea, and Singapore.

To date there are very few empirical studies that have investigated inbound tourism development in Taiwan. For instance, Huang and Min [23] established a model for Taiwan's inbound demand to predict the volume of visitor arrivals after the 921 earthquake in 1999. Wang [64] provides empirical evidence using the grey theory and fuzzy time series to predict tourism demand. Furthermore, Min [42] employs a seasonal autoregressive integrated moving average (SARIMA) model for measuring the impact of the Severe Acute Respiratory Syndrome (SARS) on Taiwan's inbound demand over the period from March to July 2003. Kim et al. [28] examine the causal relationships between tourism development and economic growth in Taiwan. Thus far, these empirical studies for Taiwan have not undertaken structural breaks in the relationships between tourism development and economic growth.

Over the past several decades, the island's economic and tourist developments have covered a somewhat volatile time of economic incidents, international political shocks, and the adjustment of tourism regimes in Taiwan. Will these changes cause structural breaks in the relationship between tourism development and economic growth in Taiwan?

In the 1960s and 1970s, tourism in Taiwan grew very fast. Over the late 1970s to the early 1990s, Taiwan faced a turbulent international political relationship and world economic crises, which eroded the growth of Taiwan's tourism development. After the United States Government changed its diplomatic recognition from Taipei to Beijing on 1 January 1979, this policy prompted Taiwan to face a difficult relationship with mainland China and the international community. Only around 30 countries maintain formal diplomatic relations with Taiwan at the moment. Substantial relations between Taiwan and those countries without diplomatic relations were confronted with many challenges, including foreigners applying for visas and the rights of international airlines. This severe international political situation resulted in a prolonged slowdown of Taiwan's tourism growth. The grim situation has also been aggravated by two oil price shocks, occurred respectively in 1973 and in 1979, and the change of Taiwan's exchange rate regime in 1987. Being in the presence of the circumstances, Taiwan's government relaxed some tourism controls and policies to reinvigorate the tourism industry in the stage. First, in the 1980s the government established 6 national parks and 12 national scenic areas. Furthermore, there was the lifting of travel restrictions—for example, the government's institution of a 5-day visa-free entry program for 15 countries in 1994.

Over the last decade the growth rate of tourist arrivals to Taiwan has risen again, which is attributed to many factors. As well as the above tourism polices, the rapid economic growth of the neighboring Asian counties has also fueled overseas arrivals to Taiwan.¹ The fast economic growth rate of Taiwan has also brought more business visitors, which exceeded tourist visitors to become the first group from 1998 to 2000. Another important reason is that the policy for mainlanders visiting Taiwan experienced a gradual door opening from 1988 as there was an initial reconciliation between Taiwan and mainland China.

¹ Over the period of 1960–1985, four Asian countries, including Singapore, Hong Kong, Taiwan, and South Korea, had average annual growth rates of per capita GDP all over 6%, which was faster than most global countries. From 1993 to 1996 other Asian countries, such as Malaysia, Thailand, and Indonesia, also had fast annual growth rates of per capita GDP.

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