Dynamic Relationship between Tourism and Economic Growth in India

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Abstract
The main objective of this paper is to investigate the impact of tourism on India's Economic Growth by using data for India for the period of 1995-2012. We employed cointegration technique and Fully Modified Ordinary Least Square (FMOLS) method. The Augmented Dickey-Fuller (ADF) and Phillips Perron (PP) tests used to determine the order of integration of the series. The empirical findings confirm long-run equilibrium relationship among the variables. Results from the long-run elasticities indicate that tourism increases the economic growth significantly. The results reveal that tourism is playing an important role in increasing economic growth. Therefore, it is important promoting the tourism in the country.

Keywords: Economic Growth; Tourism; Foreign Direct Investment; Trade Openness; Cointegration; FMOLS; India

1. Introduction

World tourism is considered as a significant factor in the economy of many nations. Today tourism related infrastructure in various parts of the country has improved the quality of life of the local people and helped to promote local arts and crafts. Tourism has contributed to increase awareness about conservation of the environment and the cultural heritage. Tourism is the fastest growing industry in modern world. People have always travelled to distant parts of the world to see monuments, arts and culture, taste new cuisine etc. Tourism's importance, as an instrument for economic development and employment generation, particularly in remote and backward areas, has been well organised the world over. Tourism can play an important and effective role in achieving the growth with equity objectives which India has set for itself. Tourism is one economic sector in India that has the potential to grow at a high rate and can make sure consequential development of the infrastructure of the destinations.

India's glorious traditions and rich cultural heritage are closely related with the development of tourism. Its magnificent monuments attract a large number of tourists from all over the world. The natural surroundings, the architectural masterpieces, the music, dance, paintings, customs and languages all these go to make India as tourist paradise.

2. Literature review

Chou (2013) used panel data analysis on 10 transition countries, and claimed that tourism didn't affect economic growth only in 3 transition countries (Bulgaria, Romania and Slovenia). Tourism was one of the main reasons of economic growth in other 7 countries, according to the results of the study.
The positive effect of tourism on economic growth, found in most of the presented studies, suggests that tourism seems to enjoy increasing returns. Studies by Croes (2011) and Holzner

(2010) also found evidence of tourism having an increasing return effect on long-run economic growth. This interpretation is, however, not supported by everyone in the tourism literature. There are some authors that view the duration of the influence of TD on economic growth only as a short-term event and not sustainable on the long run.

Chen and Chiou-Wei (2009) used a different approach to study the relationship between tourism expansion and economic growth in Taiwan and South Korea; that of an EGARCH-M model. They concluded that the TLEG hypothesis held for Taiwan, whereas there was bidirectional causality in the case of South Korea.

Other studies find a positive impact of tourism on growth. Fayissa et al. (2009) find a positive and significant impact of international tourism earnings on the growth rates of GDP per capita by using a panel data for a sample of 17 Latin American countries from 1995 to 2004. After using a fixed-effects estimation method, they find that a 10% increase in the level of tourism earnings increases the GDP per capita by 0.4% from its level. They also find the impact of tourism on the growth of GDP per capita is higher when human and physical capital improvements occur simultaneously that explains the interrelation of tourism with the other sectors of the economy. However, as a study that recommends countries in Latin America to work on policies to foster tourism, it does provide any evidence of the basis for focusing on tourism with regards to other sectors. If the study had included the contribution from other economic sectors as well, then the relative contribution of international tourism to economic growth of these countries would have shed more light on the desirability of tourism.

Marcouiller (2007) points out that first-time, retired and inexperienced workers take up the majority of low wage jobs in tourism. The seasonal employment in tourism, on the other hand, provides economic opportunities to many of those, who have few other options, particularly in rural areas in developing countries. As such, tourism is actually found to be beneficial with a deeper analysis. Furthermore, he also explains that lucrative career opportunities exist in tourism for relatively the higher skilled workers like chefs, hotel managers, and professional entertainers.

Dritsakis (2004) proposes the view that the contribution of tourism to a country's economy is multifaceted, affecting its exchange rate, as well as different sectors of the economy such as the employment sector (by reducing the propensity to emigrate), the business sector (as it has to develop in order to meet the increasing tourist market), the income sector (in its contribution to aggregate income and the importance of the multiplier effect), the cultural sector (by improving the living standards of the people) and the fiscal sector (as tourism activities yield income to the public sector).

3.   Data and methodology

The annual data used for study covering the period from 1995 to 2012 for India. The variables in this study include gross domestic product (GDPPC), foreign direct investment (FDI), trade openness (TO) and finally tourism receipts. Gross domestic product per capita is measured in constant 2010 US dollars, foreign direct investment net inflows are measured as a percentage of GDP, trade openness, which is total exports and imports as percentage of GDP and tourism revenue are measured as a contribution of the tourism sector to the GDP. The time series data on GDPPC, FDI and TO are obtained from world development indicators (WDI) published by World Bank. Tourism revenue is obtained from World Travel and Tourism Council respectively.

Here, Johanson cointegration technique and FMOLS method applied. In the estimation process, economic growth (GDPPC) treated as a dependent variable while, foreign direct investment inflow

(FDI), trade openness (TO) and tourism revenue (TR) are considered as independent variables in the model. The equation can be written as follows:

$$GDP_t = \beta_1 FDI_t + \beta_2 TO_t + \beta_3 TR_t + \mu_t$$

4. Empirical findings

The Table 1 provides information on correlation between the observed variables. Foreign direct investment, tourism receipts and trade openness are positively correlated with gross domestic product per capita. It is confirmed that all the variables like foreign direct investment, trade openness and tourism receipts are highly significant and positive relation. It signifies that all the variables are moving in the same direction. The results also revealed that there is a high correlation among the variables.

Table 1: Correlation Matrix

Variables	GDPPC	FDI	TR	TO
GDPPC FDI TR TO	1 0.777 0.985 0968	1 0.794 0.816	1 0.982	1

NOTE: The analysis of correlation matrices carried out on the natural logarithms of all observed variables

The unit root tests are performed on the natural logarithm data series. The ADF and PP tests are carried out on the assumption that the null hypothesis of a unit root (non-stationary) is tested against the alternative hypothesis of no unit root (stationary). The results of Table 3 confirm that all the series are non-stationary at their levels, or the series contains unit root. Hence, after the first order differentiation the test statistics show that we can reject the null hypothesis of non-stationary for all the series. In conclusion, all the series are stationary at their first order differences, or they are I (I) variables. All the variables are integrated order of one. Since, the variables are integrated of order of one for series; the cointegration test will be applied to understanding the long-run equilibrium relationship among the variables.

Table 2: ADF and PP test Results

Variables	ADF		PP	
	Level	**First Difference**	**Level**	**First Difference**
GDPPC **FDI** **TO** **TR**	1.277 -1.563 -0.267 0.379	-3.941** -3.111* -5.239** -3.187*	-1.563 1.477 -0.153 0.400	-3.941** -3.124* -5.252** -3.083*

Note: where (**) and (*) denote significance level at 1% and 5%, respectively. ADF and PP tests examine null hypothesis of a unit root against the alternative of no unit root. These two tests are performed on the natural logarithm data series

Table 3 presents the following the unit root properties, we have estimated the Johansen cointegration test to examine the long run relationship between the gross domestic product per capita, foreign direct investment, trade openness and tourism receipts in india. Based on trace statistics and maximum eigenvalue statistics, we have rejected the null hypothesis of no cointegration among the variables at 5 per cent level of significant. The results show that there is existence of long run relationship among the included variables.

Table 3 Cointegration test results

The Trace statistic test				
Null	Alternative	λ_{trace} value	95% critical values	P-value
r=0	r≥1	51.702	47.856	0.020
r≤1	r≥2	20.960	29.797	0.360
r≤2	r≥3	7.070	15.494	0.569
The Maximum Eigenvalue test				
Null	Alternative	λ_{max} value	95% critical values	P-value
r=0	r=1	30.742	27.584	0.019
r≤1	r=2	13.889	21.131	0.374
r≤2	r=3	7.056	14.264	0.483

Note: p-values are based on MacKinnon et al. (1999) and, r is the cointegration rank

The fully modified ordinary least square results reported in Table 4. Where, GDP per capita as a dependent variable, coefficients of trade openness and tourism receipts are positive and significant and foreign direct investment has negatively related to economic growth. Results of FMOLS indicate that 1% increase tourism receipts leads to 0.38% increase in economic growth. In the same way, 1% increase in trade openness leads to 0.010% increase in economic growth.

Table 4 Fully Modified Ordinary Least Square (FMOLS) Results

Variable	Coefficient	t-Statistic	Prob.
FDI	-0.030	-0.014	0.988
TO	0.010	0.049	0.961
TR	0.383	4.019	0.001

5. Conclusion

This paper investigates the impact of tourism on economic growth for India during the period of 1995-2012. We have applied ADF and PP tests to test stationary properties of the variables. The cointegration test is applied to examine the long run relationship among the variables. Our findings confirm the presence of long run equilibrium relationship among (gross domestic product per capita, foreign direct investment, trade openness and tourism revenue) the variables. The FMOLS results confirm that except foreign direct investment all the variables are positively significant. Findings from the long run elasticities suggest that there is an important role of tourism performance to promoting economic growth in India.

The empirical findings confirm long-run equilibrium relationship among the variables. Results from the long-run elasticities indicate that tourism increases the economic significantly. The results reveal that tourism is playing an important role in promoting economic growth. Therefore, it is worth promoting the tourism in the country.

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