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Causality between Tourism and Economic Growth: Empirical Evidence from India

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Abstract

Tourism is one of the most important sectors in the world economy. It is now considered as an efficient tool for promoting economic growth of the host country. Since last few decades, tourism industry in India has been growing at a rapid pace and it has vast potential for generating employment and earning large amount of foreign exchange besides giving a fillip to the country's overall economic and socio-cultural development. It is thus imperative to examine the dynamics of the relationship between tourism sector expansion and economic growth in India. This paper is an attempt in this direction. The study using popular time series models for the period spanning from 1978 to 2009, provides the evidence of long-run unidirectional causality from tourism activities to economic growth of the country. Therefore, as a part of the policy implications it is necessary that all wings of the central and state governments, private bodies and voluntary organisations should become the active partners in the endeavour to attain sustainable growth in tourism and overall economy as well.

Keywords: Tourism, India, Economic Growth, Cointegration, Granger Causality
JEL Classification Code: C21, C82, O11, O41, L83

I. Introduction

In recent years, the role of tourism in the economic development of a country has been the focus of study and research. It is the general consensus that tourism has been pivotal in social progress as well as an important vehicle of widening socio-economic and cultural contacts throughout human history. Over the past years, many developing and developed countries have considered tourism as an option for sustainable development of their nations. The importance of tourism as a contributor to economic growth is so widely accepted that year after year throughout the world a massive investment continues to pour in its development.

Tourism has emerged from being a relatively small-scale activity into one of world's largest industries and a fastest growing global economic sector of the world economy from the 1960s onwards. The international tourist arrivals have shown an uninterrupted growth from 25 million in 1950, to 681million in 1980, to 438 million in 1990 and to 681million in 2000. The international tourist arrivals

were 880 million and the corresponding international tourism receipts was US$ 852 million in 2009. The tourist arrivals in Asia and the Pacific were 181 million and corresponding tourism receipt was US$ 204 million. As per UNWTO estimates, the worldwide international tourist arrivals increased by 7 per cent between January and June 2010. For the full year 2010, UNWTO projects a growth in international tourist arrivals of between 3 to 4 per cent. In 2010, tourism is expected to generate 21.7 per cent of world gross domestic product; 10 per cent of global capital investments; 9 per cent of worldwide employment; and 22.2 per cent of worldwide exports of goods and services. All these cast for a significant role of tourism sector in the long-run growth of host countries across the globe.

It was in 1945 that the first ever step was taken to popularize the concept of tourism in India, by appointing the Sir John Sargent Committee which in 1946 submitted the report with suggestions of the formation of regional offices at Bombay, Delhi, Calcutta and Madras. And, it came into being in 1949 with the set up of a Tourist Traffic Branch along with two regional offices in Bombay and Delhi. It was however, on 1 March 1958, that a separate Tourist Department in the ministry of Transport and Communication was established in place of Tourist Traffic Branch in the same ministry. In 1967, tourism elevated to the Ministry of Tourism and Civil Aviation. And, since then the concept of tourism developed and gathered momentum in India.

Tourism today has become an important segment of India economy contributing substantially to sustainable development of the country. India has succeeded in becoming the most preferred place amongst domestic and overseas travellers. Tourism exposes international travellers to India's diverse culture. The tourism sector has been instrumental in generating foreign exchange, employment opportunities and household income for Indians, as it has in many other developing economies. Thus, the development of the tourism sector appears to have been as important as the development of other sectors of the Indian economy.

The biggest advantage of the tourism industry is that it can generate maximum employment opportunity. Tourism helps in regional and economic development. Recent study shows that the globalisation and open economy helped tourism to emerge as one of the biggest forex earners for India. It brings the opportunity of infrastructure development.

The overall development of any country depends especially on the improvement of road, vehicles, communication, water supply, airports and railway stations. Economic progress and industry development depend completely on the overall development of country. And tourism plays a major role in this overall infrastructural advancement. Tourism helps agriculture and other industries directly and indirectly. In India, the tourism industry helped generate about five million jobs; the foreign tourists buy handicrafts worth around Rs. 10 billion a year; the total income from this smokeless industry is around Rs. 200 billion; and the regions like Aurangabad in Maharashtra, Khajuraho in MP, Jammu & Kashmir, and Raghurajpur in Orissa have emerged with the help of tourism only.

Tourism is therefore, a major engine of growth for Indian economy. Today tourism is the largest service industry in India, with a contribution of 6.23 per cent to the national Gross Domestic Product (GDP) and providing 8.78 per cent of the total employment. India witnesses more than 5 million annual foreign tourist arrivals and 562 million domestic tourism visits. The tourism industry in India generated about US$100 billion in 2008 and that is expected to increase to US$275.5 billion by 2018 at a 9.4 per cent annual growth rate. According to World Travel and Tourism Council, India will be a tourism hotspot from 2009-2018, having the highest 10-year growth potential.

As per the Travel and Tourism Competitiveness Report 2009 by the World Economic Forum, India is ranked 11th in the Asia Pacific region and 62nd overall, moving up three places on the list of the world's attractive destinations. It is ranked the 14th best tourist destination for its natural resources and 24th for its cultural resources, with many World Heritage Sites, both natural and cultural, rich fauna, and strong creative industries in the country. India also bagged 37th rank for its air transport network. The India travel and tourism industry ranked 5th in the long-term (10-year) growth and is expected to be the second largest employer in the world by 2019. Tourism sector in India is, therefore,

growing and it has vast potential for generating employment and earning large amount of foreign exchange besides giving a fillip to the country's overall economic and social development.

It is with this backdrop, this paper is an attempt to investigate the dynamics of the relationship between tourism sector development and economic growth of India for the sample period of 1978 to 2009. The study purports to answer the questions: Is there holds a long-run equilibrium relationship between tourism sector development and economic growth in India? And, if a long-run relationship exists, what is the direction of the causal relationship between them?

Above stated the research problem, the rest of the paper is organised as follows: Section II reviews the related studies, Section III discusses the data and methodology, Section IV makes the analysis, and Section V summarizes and concludes.

II. Literature Review

There exists plenty of literature about the impact of tourism sector expansion on the host country, but the literature on whether it actually produces any significant economic growth is limited and that too for emerging countries like India, the empirical researches and evidences are almost non-existent.

The researchers and analysts hold the view that the rapid growth of tourism sector causes an increase of household incomes and government revenues through its multiplier effects, improvements in the balance of payments, and growth of the tourism industry by itself. As such, the development of tourism has usually been considered a positive contribution to economic growth (Khan *et al*, 1995; Lee and Kwon, 1995; Lim, 1997 and Oh, 2005).

Keeping in view such positive impact of tourism on economic growth many researchers have investigated the relationship between tourism sector development and economic growth in a country. Using Spain's economic data, Balaguer and Cantavella-Jorda (2002) examine the role of tourism sector in the long-run economic development of the country. The hypothesis of tourism-led economic growth was confirmed by applying cointegration and causality tests. In Turkey, Tosun (1999), Guduz and Hatemi (2005) and Zortuk (2009) have also found empirical support for the tourism-led growth hypothesis. Durbarry (2002) also provides the evidence of the tourism-led economic growth by using the cointegration and causality tests for Mauritius.

Dritsakis (2004) shows that tourism has a long-run economic growth effect for Greece. Oh (2005) on Korean tourism concluded that the increase in tourism income influences the economic growth. Kim *et al* (2006) examine the causal relationship between tourism development and economic growth in Taiwan and find a reciprocal relationship between tourism development and economic growth.

Khalil *et al* (2007) examines the role of tourism in the short-run economic development in case of Pakistan through error correction model, and the Causal relationship between tourism receipts and economic expansion. The results points out that there is strong relationship among tourism, receipts and economic expansion which means that economic expansion is necessary for tourism development in Pakistan.

Wickremasinghe and Ihalanayake (2006) investigate the issue that tourism industry leads to economic development for a developing country - Sri Lanka, using annual data from 1960 to 2000. The results of the study suggest that there is a significant causal relationship from tourism receipts to the GDP of Sri Lanka.

Razaq and Masarwah (2006) discussed the effects of tourism sector on the Jordanian economy. The dimensions of the study clarified causal relationship between the tourism revenues and the economic growth, and employment in the tourism sector, and domestic private consumption. Johansen Co-Integration Approach clarified, that there is balanced relation in long-run among the variables of the study, while the findings of the short-run analysis pointed out that tourism revenues played basic role in the most important economic variables**.**

Eugenio-Martin *et al* (2004) investigate the relationship between tourism and economic growth for Latin American countries from 1985 through 1998. The empirical results show that tourism development can contribute to the economic growth of medium or low-income countries, while such a role is unclear for developed countries. Lee and Chang (2008) reached the conclusion that there is a unidirectional relationship running from tourism towards growth for OECD countries whereas a bidirectional causal relationship exists for non-OECD countries. Skerritt and Huybers (2005) investigate the effect of international tourism on GDP per capita of 37 developing countries, the results indicate that tourism positively affect economic development in these countries.

Comparing the relative growth performance of 14 "tourism countries" within a sample of 143 countries, Brau, Lanza, and Pigliaru (2003) and Lee and Chang (2008) document that, on the average, tourism enhances the economic growth process; i.e. tourism countries tend to grow faster than all the other sub-groups (OECD, Oil Exporting, LDC, Small). Many developing countries have, thus started to regard tourism as an integral part of their economic growth and development strategies since it serves as a source of scarce financial resources, job creation, foreign exchange earnings, and technical assistance (Sinclair, 1998; Dieke, 2004).

Fayissa *et al* (2007) using a panel data of 42 African countries, showed that receipts from tourism industry significantly contribute to economic growth of Sub-Saharan African countries. In another study, Fayissa *et al* (2009) using a panel data of 17 Latin American countries for the years that span from 1995 to 2004, investigated the impact of the tourism industry on the economic growth and development Latin American countries within the framework of the conventional neoclassical growth model. The empirical results show that revenues from the tourism industry positively contribute to both the current level of gross domestic product and the economic growth of Latin American Countries as do investments in physical and human capital.

Kreishan (2010) examines the causality relations between tourism earnings and economic growth for Jordan, using annual data covering the period 1970-2009. The findings of the study showed that there is a positive relationship between tourism development and economic development in the long-run. Moreover, the Granger causality test results revealed the presence of unidirectional causality from tourism earnings to economic growth.

Aliqah and Al-rfou' (2010) attempted to determine the impact of the tourism sector on economic growth in Jordan during the period 1990 to 2008 by using descriptive statistical approach. The study concluded that the tourism sector witnessed significant growth in tourism services, tourism infrastructure, tourism legalisations, institutional framework, and the number of tourist arrivals. The study also revealed that the contributions of the tourism sector in GDP for the years 1990-2008 have seen variation ranged between 12.3 to 14.6 per cent and increase in the contributions of tourism sector, in the field of employment to become 2.5% of the total manpower recruitment.

It is at least inferred from the literature review that developing countries have started considering tourism as an important and integral part of their economic growth and development strategies. It is in this context worthwhile to mention that the literature is almost silent about a causality study between tourism sector development and economic growth in case of India. The current study is an attempt to bridge this research gap.

III. Data and Methodology

The objective of this paper is to investigate the dynamics of the causal relationship between tourism sector development and economic growth in India for the period spanning from 1978 to 2009. This study uses annual data on variables – Real Gross Domestic Product (RGDP) which measures the overall economic growth of the country, and Tourism Foreign Exchange Earnings (TFEE) and Foreign Tourist Arrivals (FTA) as measures of tourism sector expansion (Wang and Godbey, 1994; Gunduz and Hatemi-J, 2005; Kim *et al*, 2006). The time-series data of RGDP, TFEE and FTA variables on

annual basis have been collected from the RBI database on Indian economy, Bureau of Immigration, and from tourism statistics published by Ministry of Tourism, Government of India.

All the variables of the study have been transformed to their natural logarithms to avoid the obvious problems of heteroscedasticity. Then, the stationarity of the variables have been tested by Augmented Dickey-Fuller unit Roots Test. In the second step, the Johansen's cointegration test has been performed to assess whether a long-run equilibrium relationship holds between the research variables. Finally, the Granger causality test has been applied in the vector error correction framework to find out the direction of causal relationship between the cointegrated variables.

IV. Results and Discussion

At the outset, the Pearson's correlation coefficient between real GDP and Foreign Arrivals (FTAs) in India, and between real GDP and Foreign Exchange Earnings (FEEs) from tourism have been calculated over the sample period and their significance have been tested by the t-test. The value of Pearson's correlation coefficient (r) between real GDP and FTAs is 0.985. Similarly, the correlation coefficient between real GDP and FEEs is 0.988. It shows that these three variables are positively related over the sample period in India and that to a very high degree of correlation is evident between them. To test whether these values of 'r' shows significant relationships between three time series, student's t-test has been used. The null hypothesis of the test is $r = 0$ against the alternative of $r \neq 0$ for both the correlations. Since the t-statistic at 30 degrees of freedom exceeds the critical value of 't' at 5% level of significance, the null hypotheses are rejected. So, it can be said that the correlation between the variables of the study are statistically significant. Correlation, however, does not say anything about long-run relationship and thus, leaves unsettled the debate concerning the long-run relationship between tourism sector expansion and economic growth in India.

As an essential step of time series empirical analysis, it is first, required to determine the order of integration for each of the three variables used in the analysis. The Augmented Dickey-Fuller unit root test has been used for this purpose and the results of such test are reported in Table-1. And, it is clear that the null hypothesis of no unit roots for all the time series are rejected at their first differences since the ADF test statistic values are less than the critical values at 1%, 5% and 10% levels of significances. Thus, the variables are stationary and integrated of same order, i.e., I(1).

Table 1: Results of Augmented Dickey-Fuller Unit Root Test

Variables in their First Differences with intercept	ADF Statistic	Critical Values	Decision
LGDP	-3.74	At 1% : -3.67 At 5% : -2.96 At 10% : -2.62	Reject Null hypothesis of no unit root
LFTAs	-4.46	At 1% : -3.67 At 5% : -2.96 At 10% : -2.62	Reject Null hypothesis of no unit root
LFEEs	-5.61	At 1% : -3.67 At 5% : -2.96 At 10% : -2.62	Reject Null hypothesis of no unit root

In the next step, the cointegration between the stationary variables has been tested by the Johansen's Trace and Maximum Eigenvalue tests. The results of these tests are shown in Table-2. The Trace test indicates the existence of one cointegrating equation at 5% level of significance. And, the maximum eigenvalue test makes the confirmation of this result. Thus, the three variables of the study have long-run equilibrium relationship between them. But in the short-run there may be deviations from this equilibrium and we have to verify whether such disequilibrium converges to the long-run

equilibrium or not. And, Vector Error Correction Model can be used to generate this short-run dynamics. Error correction mechanism provides a means whereby a proportion of the disequilibrium is corrected in the next period. Thus, error correction mechanism is a means to reconcile the short-run and long-run behaviour.

Table 2: Results of Johansen's Cointegration Test

Hypothesized Number of Cointegrating Equations	Eigen Value	Trace Statistics	Critical Value at 5% (p-value)	Maximum Eigen statistics	Critical Value at 5% (p-value)
None*	0.5245	29.81	29.79(0.049)	22.30	21.13(0.034)
At Most 1	0.2100	7.508	15.49(0.519)	7.074	14.26(0.480)
At Most 2	0.0143	0.434	3.84(0.509)	0.434	3.84(0.509)

* *denotes rejection of the hypothesis at the 0.05 level*

The estimation of a Vector Error Correction Model (VECM) requires selection of an appropriate lag length. The number of lags in the model has been determined according to Schwarz Information Criterion (SIC). The lag length that minimizes the SIC is 1. Then, an error correction model with the computed t-values of the regression coefficients is estimated and the results are reported in Table-3.

Table 3: Estimates for VECM Regression

Independent Variable	$\Delta LGDP_t$	$\Delta LFTA_t$	$\Delta LFEE_t$
EC_{t-1}	-0.063929	0.195494	-0.004659
[t-statistic]	[-2.62919]	[2.48869]	[-0.02662]
(p-value)	(0.0104)	(0.0150)	(0.9788)
$\Delta LGDP_{t-1}$	0.240972	0.170012	-0.201211
[t-statistic]	[1.49822]	[0.32719]	[-0.17380]
(p-value)	(0.1383)	(0.7444)	(0.8625)
$\Delta LFTA_{t-1}$	-0.007497	0.393865	0.601612
[t-statistic]	[-0.11587]	[1.88425]	[1.29173]
(p-value)	(0.9081)	(0.0634)	(0.2004)
$\Delta LFEE_{t-1}$	-0.025049	0.048416	-0.069273
[t-statistic]	[-0.88306]	[0.52834]	[-0.33927]
(p-value)	(0.3800)	(0.5988)	(0.7354)
Constant	0.103570	0.006683	0.149961
[t-statistic]	[4.71401]	[0.09415]	[0.94822]
(p-value)	(0.0000)	(0.9252)	(0.3461)

The estimated coefficient of error-correction term in the LGDP equation is statistically significant and has a negative sign, which confirms that there is not only any problem in the long-run equilibrium relation between the independent and dependent variables in 10% level of significance, but its relative value (-0.063929) for India shows the rate of convergence to the equilibrium state per year. Precisely, the speed of adjustment of any disequilibrium towards a long-run equilibrium is that about 6.39 per cent of the disequilibrium in real; GDP is corrected each year.

Furthermore, the existence of cointegration implies the existence of Granger causality at least in one direction (Granger, 1988). The negative and statistically significant value of error correction coefficient indicates the existence of a long-run causality between the variables of the study. As is evident from Table-3, there exists unidirectional causality running from foreign exchange earnings from tourism to real GDP in the long-run. However, no short-run causality between variables is indicated. In order to

confirm the result of the short-run causality between the ΔLGDP, ΔLFTA and ΔLFEE based on VECM estimates, a standard Granger causality test has been performed based on F-statistics.

Table 4: Results of Granger Causality Test

Null Hypothesis	F-Statistic	Probability	Decision
ΔLFTA does not Granger Cause ΔLGDP	0.39359	0.53569	Accept
ΔLGDP does not Granger Cause ΔLFTA	0.34435	0.56221	Accept
ΔLFEE does not Ganger Cause ΔLGDP	0.02536	0.87466	Accept
ΔLGDP does not Granger Cause ΔLFEE	0.01345	0.90853	Accept
ΔLFEE does not Granger Cause ΔLFTA	0.04215	0.83887	Accept
ΔLFTA does not Granger Cause ΔLFEE	1.97169	0.17167	Accept

(Number of lags = 1)

The result in Table-4 indicates that all the null hypotheses are accepted at 5% level of significance. These results support the previous results obtained from VECM about the non-existence of short-run causality at the 5% level of significance.

V. Summary and Conclusion

In this paper, the relationship between real GDP, foreign tourist arrivals and foreign exchange earnings from tourism in a developing country like India has been investigated using popular time series methodologies. The data properties are analyzed to determine the stationarity of time series using the Augmented Dickey-Fuller unit root test which indicates that all the three series are I(1). The results of the Cointegration test based on Johansen's procedure indicate the existence of the cointegration between variables. Therefore, the variables have a long-run equilibrium relationship between them, although they may be in disequilibrium in the short-run. The estimation of vector error correction model based on VAR indicates the existence of long-run unidirectional causality running from foreign exchange earnings from tourism to real GDP in the long-run. However, no short-run causality between variables is indicated.

The findings of this study confirms the tourism-led growth hypothesis maintained earlier for other countries that tourism has a positive impact on the economic activity and hence, the GDP growth of India. The study also validates the stable long-run relationship between tourist activities and GDP growth rate. It means that if tourists activities increase, the GDP growth rate improves via increase in foreign exchange earnings. It provides the rationale of government role for providing and generating the tourism facilities in India. Fortunately, India has several unique opportunities for different types of tourism including traditional tourism, rural tourism, medical tourism, cruise tourism, adventure tourism, and wellness tourism. Its geographical location has made it a historical and cultural hub for the tourism. The country has great potential in coastal tourism, mountain climbing and layout tourism adventures trip and tremendous opportunities in the areas of echo and safari tourism.

Some of the recent initiatives taken by the Government of India to boost tourism include grant of export house status to the tourism sector and incentives for promoting private investment in the form of income tax exemptions, interest subsidy and reduced import duty. The hotel and tourism-related industry has been declared a high priority industry for foreign investment which entails automatic approval of direct investment up to 51 per cent of foreign equity and allowing cent per cent non-resident Indian investment and simplifying rules regarding the grant of approval to travel agents, tour operators and tourist transport operators. The government joined hands with leading airlines, hoteliers, holiday resorts and tour operators, and offered them a wide range of incentives and bonuses during the period between April and December, 2009.

In spite of the aforesaid initiatives, the major constraints in the development of tourism in India is the non-availability of adequate infrastructure including adequate air seat capacity, accessibility to tourist destinations, accommodation, and trained manpower in sufficient number. Besides, the poor visitor

experience is another obstacle in the growth of tourism sector which is due to inadequate infrastructural facilities, poor hygienic conditions and incidents of touting and harassment of tourists in some places.

So the following suggestions may be put forward for the growth of tourism sector in India: First, the Government of India should concentrate on the means of transportation, communication and power for the promotion of tourism industry in the country; Second, to attract the foreign tourist, the security issues should be handled in the best possible manner; Third, as the tax structure plays a vital role in industrialization process, the government should give tax incentives to the air fares, hotels and other tourism related industries; Fourth, the cultural and traditional festivals should be organized to create attractions for foreign tourists; Fifth, the journals, brushers with maps and proper guidance should be placed in all important hotels and tourists gateways so that the tourist from any corner of the world can benefit from it without any communication barrier; Sixth, both the electronic and print media should be encouraged to play an important role in enhancing the demand for tourism in India through aggressive advertisement; Seventh, the eco-tourism needs to be promoted so that tourism in India helps in preserving and sustaining the diversity of the country's natural and cultural environments; Last but not the least, tourism in India should be developed in such a way that it accommodates and entertains visitors in a way that is minimally intrusive to the environment and sustains and supports the native cultures in the locations it is operating in.

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