



Tourism led growth hypothesis: empirical evidence from India

Dr. Nitasha Sharma
Assistant Professor
Department of Commerce
Doaba College
Jalandhar, Punjab
India
Email: nitasha.sharma20@yahoo.com

Abstract

Tourism activities are considered to be one of the major sources of economic growth. The importance of tourism to economic development has been widely recognized due to its contribution to the balance of payments, GDP and employment. Tourism has gradually grown over the years as a full fledged industry. The significant impact of international tourism in stimulating economic growth is admirable. For this reason, the relationship between international tourism and economic growth would seem to be an interesting and contemporary empirical issue. Current research paper attempts to examine the causal relationships between GDP and Receipts from tourism sector in India. Augmented Dickey-Fuller (ADF) for unit root, Johanson for cointegration and Granger causality test to examine the causal relation have been employed between GDP and Receipts from tourism sector in India by using the data over the period of 1991-2017. The findings of the study showed the presence of unidirectional causality from tourism earnings to economic growth.

Keyword: Tourism, Growth, India, Causality, Development

Tourism Led Economic Growth Concept

International tourism is recognized to have a positive effect on long-run economic growth through different channels. On one hand, tourism sector stimulates other industries by direct, indirect and induced effects and on other hand it contributes to generate employment and causes positive economies to scale (Brida et al., 2008). It generates a vital amount of foreign exchange earnings and also contributes to the sustainable economic growth (WTO, 2012). Nowadays many developing countries are focusing on economic policies for encouraging international tourism as a potential source of economic growth of a country. According to the World Travel and Tourism Council (WTTC), travel and tourism is the biggest sector in the world on virtually any economic measure including gross output, capital investment, employment etc. (Aslan et al., 2009).

Tourism is one of the economic sectors that has the potential to grow at a high rate and can ensure substantial development of the infrastructure of the destinations. It has capacity to capitalize on the country's success in the service sector and generates a multiplier effect on the economy (Eleventh five Years Plan, 2007-2012). It has the potential to stimulate other economic sectors through its backward and forward linkages and cross-sectoral synergies with sectors like agriculture, horticulture, poultry, handicrafts, transport, construction, etc. As a result, additional income and employment opportunities are generated through such linkages. Thus, the expansion of the tourism sector can lead to economic growth of any country (Chang et al., 2010). The relationship between tourism and economic growth is one of the main topics of discussion in the growing field of tourism (Figini and Vici, 2010). Lea



(1988) and Sinclair (1998) have highlighted the potential of the tourism sector in promoting growth, creating jobs and generating revenue for the government. There are a number of empirical papers confirming the tourism industry's contribution to a country's economic growth like Kulendran and Wilson, 2000 for Australia; Shan and Wilson, 2001 for China; Balaguer and Cantavella-Jorda, 2002 for Spain; Lanza et al., 2003 for European Countries; Durbarry, 2004 for France; Narayan, 2004 for Fiji; Dritsakis, 2004 for Greece; Gunduz and Hatemi, 2005 for Turkey; Oh, 2005 for Singapore; Kim et al., 2005 for Taiwan; Louca, 2006 for Cyprus and Brida et al., 2008 for Mexico. Along with the increasing importance of the tourism industry for a country's economy, the issue of exploring the causality relationship between tourism receipts and economic growth has gained more attention. Thus, over the past decades, international tourism has been gaining importance in many economies of the world and the development of tourism has generally been considered a positive contribution to economic growth (Khalil, 2007).

Several previous studies in tourism sector have highlighted the tourism sector's potential to promote growth, create jobs and generate revenue for the government. But the very few empirical studies on tourism that exist do not offer information on its long-term effect on economic growth. Current research paper is based on idea about the tourism-led economic growth hypothesis. However it is a major question if there is a unidirectional, bidirectional or reciprocal relationship between tourism and economic growth. Three hypotheses can be identified as tourism-led economic growth hypothesis, economic-driven tourism growth hypothesis and reciprocal causal hypothesis (Oh, 2005).

The above arguments justify the relationship of tourism and economic growth of any country. The paper has been organized into four sections. Section I presents a general overview of tourism industry. Section II reviews the existing studies on the causal relationship between tourism and economic growth. Section III describes the data and research methodology and Section IV presents the results of empirical analysis and concluding discussion.

The Importance of the Tourism Sector in India

This section provides a general overview of Indian tourism industry. As far as India is concerned, it is one of the popular tourist destinations in Asia. It offers a wide range of places to see and things to do. The delighting backwaters, hill stations and landscapes make India a beautiful country. Historical monuments, forts, beaches, places of religious interests, hill resorts, etc. add to the majesty of the country. They attract tourists from all over the world (WTO, India, 2012). Tourism is the second largest foreign exchange earner in India (WTTC India, 2012). Besides it, tourism sector employs a large number of people, both skilled and unskilled. Hotels, travel agencies, transport including airlines benefit a lot from this industry. Tourism promotes national integration, cultural activities and traditional handicrafts sector. But, Indian government very lately noticed a crucial role of tourism expansion for economic development. In 2002, Ministry of Tourism (MoT), India paid considerable attention on developing campaigns for the promotion of tourism sector. Furthermore, Indian government allocated financial resources for the development of infrastructure.

Nowadays India is one of the most important countries as far as international tourism is concerned. In 2017, India was ranked 16th in terms of international tourism receipts and 41st in terms of international tourist arrivals (UNWTO). The contribution of tourism to the economic development of India has been recognized widely due to its contribution to the balance of payments, production and employment. Its importance to employment is strengthened by the relatively labour-intensive nature of tourism and the limited substitution of capital in the production of tourism services. Table I presents the number of Foreign Tourists Arrivals (FTAs) in India during the year 1991 through 2017 along with the growth rates. Tourism in India has



registered a significant growth in recent years. In May, 1992 the National Action Plan for tourism was announced to motivate private sector to participate in the tourism sector. Moreover, the credit for the increase in foreign tourists' arrival goes to the Planning Commission because it allotted funds for the development of tourism infrastructure during the eighth five year plan. Beside it, there had been a remarkable growth in foreign tourist arrival from the year 2002 to 2005 due to the various efforts made by government of India including promoting India through the 'Incredible India' campaign in overseas markets. This has led to an increase in the tourism growth by about 65 percent during the period of three years i.e. 2.38 million in 2002 to 3.92 million in 2005.

Table 1: Share of India in International Tourist Arrivals and Foreign Exchange Earnings from 1991 through 2017

Year	Number of FTAs in India (in Million)	% Change over the Previous Year	FEEs from Tourism in India(in US\$ Million)	% change over the previous year
1991	1.67	-	1861	-
1992	1.86	11.3	2126	14.2
1993	1.76	-5.5	2124	-0.1
1994	1.88	6.9	2272	7.0
1995	2.12	12.6	2583	13.7
1996	2.29	7.7	2832	9.6
1997	2.37	3.8	2889	2.0
1998	2.36	-0.7	2948	2.0
1999	2.48	5.2	3009	2.1
2000	2.65	6.7	3460	15.0
2001	2.54	-4.2	3198	-7.6
2002	2.38	-6.0	3103	-3.0
2003	2.73	14.3	4463	43.8
2004	3.46	26.5	6170	38.2
2005	3.92	13.3	7493	21.4
2006	4.45	13.5	8634	15.2
2007	5.08	14.3	10729	24.3
2008	5.28	4.0	11747	9.5
2009	5.16	-2.2	11394	-3.0
2010	5.58	8.1	14193	24.6
2011	6.30	12.9	16564	16.7
2012	6.64	5.39	17468	5.45
2013	6.68	5.68	17669	1.15
2014	6.92	5.92	17896	1.28
2015	6.83	5.85	17568	1.25
2016	7.04	6.04	17995	0.55
2017	7.06	6.44	17999	0.56
CAGR	6.48%		10.71%	

Source: Market Research Division, Ministry of Tourism, India, 2017;

Note: FTAs-Foreign Tourist Arrivals; FEEs-Foreign Exchange Earnings

For the Indian tourism sector the year, 2008-09 had been a year of challenge with a drop seen in number of foreign tourists due to impact of the global economic crisis, outbreak of H1N1 influenza and terrorist attacks at Taj Hotel and other places in Mumbai. Nevertheless Indian tourism sector outperformed the global growth by 2 percent in International tourists' arrival in 2008. FTAs, in India during the year 2010 were 5.58 million with a growth rate of 8.1 percent as compared to the FTAs of 5.16 million and growth rate of (-) 2.2 percent during the year 2009. The major reason for growth rate in foreign tourists' arrival in the year 2010 was Commonwealth Games. The 12.9 percent growth rate in FTAs for the year 2011 over the year 2010 for India is much better than the growth rate of 7 percent as reported by World Tourism Organization (WTO) for the world during the same period. Furthermore, the compound annual growth rate (CAGR) in FTAs in India during the period 1991 through 2017 was 6.48 percent. Tourism is an important sector of Indian economy and contributes substantially in the country's Foreign Exchange Earnings (FEEs) also. Table I also depicts the foreign exchange earnings



from tourism in India during the period 1991 through 2017 along with their growth rates. The “Incredible India” campaign was one of the most successful campaigns. As highlighted in table 1, the international tourism receipts stagnated around 3000 million before the launch of “Incredible India”. After the launch of the campaign in 2002, results evidently showed a significant growth in foreign exchange earnings. FEEs from tourism during the year 2010 were US \$ 14193 million as compared to US\$ 11394 million during the year 2009 and US \$ 11747 million during the year 2008. The FEEs declined by 3 percent in the year 2009 whereas it grew by 24.6 percent during the year 2010. Growth rate observed in the year 2012 was substantially low as compared to the year 2011. The compound annual growth rate (CAGR) in FEEs in India during the period of last 27 years i.e. from the year 1991 to 2017 as 10.71 percent.

Review of Literature

Despite the belief in tourism-led economic development, not many studies have rigorously investigated the causal relationship between tourism receipts and economic growth. Moreover, most of studies have indeed been dealing with samples of developed countries. Despite the increasing importance of tourism for developing countries, lesser studies have been conducted to assess the causal relationship between tourism receipts and economic growth, particularly in case of India.

Table II: Review of Existing Literature

Name of Author	Objectives	Research Methodology	Conclusion
Balaguer and Cantavella-Jorda (2002)	To investigate changes in the long-run demand for tourism in Spain	Johansen & Juselius and VECM	To study the causality between tourism and economic growth in the Spain
Dritsakis, 2004	To investigate changes in the long-run demand for tourism in Greece	Co integration	The long-run equilibrium relationship among international tourism, transportation cost and real exchange rate was found
Eugenio et al., 2005	To study the relationship between economic growth and tourism for Latin-American countries	Panel Data Regression	Tourism growth is associated with economic growth only in low and medium income countries and not in high income countries

Table II cont....

Name of Author	Objectives	Research Methodology	Conclusion
Kim et al., 2005	To examine the causal relationship between tourism expansion and economic development in Taiwan	Co integration and Granger causality test	Bi-directional causality was found between the tourism expansion and economic development
Lee and Chang, 2007	To investigate the causal relationships between tourism development and economic growth for OECD and non OECD countries	Granger causality test	Unidirectional causality relationship between tourism development and economic growth in OECD countries and bidirectional relationships between in non OECD countries was found
Brida et al., 2008	To find out the causal relationship between tourism expenditure, real exchange rate and tourism economic growth in Mexico	Co integration test	Causality goes from tourism expenditures to real GDP per capita
Tang and Jang, 2008	To analyze the relationships between the performance of four tourism related industries in the U.S.	Co integration	There is no cointegration between economic growth and performance of tourism related industries in the U.S
Dritsakis, 2009	To empirically re-examine the long-run co movements between economic growth and tourism development	Co integration and OLS	Tourist receipts have a high impact on GDP in all Mediterranean countries
Chen and Wei, 2009	To study causal relationship between tourism expansion and economic growth in two Asian countries: Taiwan and South Korea	Garch Model	Tourism-led economic growth hypothesis was supported in case of Taiwan while a reciprocal causal relationship is in case of South Korea



Chen, 2009	To investigate the impact of economy and tourism growth on the corporate performance of tourist hotels in Taiwan	Panel Regression	Both changes in GDP and tourist arrivals were found as significant explanatory factors
Chang et al., 2010	To study the relationship between tourism specialization and economic growth	Panel Regression	A positive relation between tourism and economic growth was found

Table II cont....

Name of Author	Objectives	Research Methodology	Conclusion
Ghartley, 2010	To find out the causal relationship among economic growth, tourism expansion and real exchange rate	Co integration	Results depicted that tourists arrivals, real exchange rate and economic growth were co integrated
Jimenez and Pulina, 2010	To find if exports and tourism have promoted growth by means of the export-led growth hypothesis and the tourism-led growth hypothesis in Spain and Italy	Co integration and Granger causality test	Exports led economic growth was found in the long term incase of both countries
Kogid et al., 2010	To investigate the factors that motivate and maintain economic growth	Co integration and causality test	Findings showed that all the determinant factors caused economic growth in the short run
Tang, 2011	To examine the tourism-growth nexus for Malaysia	Co integration and causality test	All the variables had a bi-directional causality
Kreishan, 2011	To study the causality relationships between tourism earnings and economic growth (GDP) for Jordan	Granger causality test	There was a presence of unidirectional causality between tourism earnings and economic growth
Brida and Giuliani, 2012	To investigate the tourism led growth hypothesis for sub national transfrontier economies	Co integration and Granger causality test	The result showed unidirectional causality running between tourism and economic growth
Jayathilake, 2013	To examine the Causality issues in tourism and economic growth in case of Sri Lanka	Johansen's Cointegration	Tourism-led economic growth hypothesis was supported in case of Sri Lanka
Trang et al., 2014	To estimate the long-run relationship between income from tourism and the economic growth of Pakistan	Johansen & Juselius cointegration,	Tourism growth is associated with economic growth for Pakistan
Ertugrul and Mangir, 2017	To empirically relationship between economic growth and tourism	Co integration and granger causality test	Tourism-led economic growth hypothesis was supported

Source: Compiled from Previous Studies

Thus, various research papers presented the importance of tourism as a significant growth enhancing factor. A small number of studies have examined the causality between international tourism and economic growth. Thus, it seemed to be an interesting and contemporary empirical issue to conduct the causal relationships between economic growth and receipts from tourism sector. Thus, the present study attempts to investigate the tourism-led economic growth hypothesis for India over the period of 27 years.

Data Base and Research Methodology: Variables, Data Source and Period of the Study

The variables used for testing the causality between economic growth and tourism are the Gross Domestic Product (GDP) and Receipts from Tourism sector. Gross Domestic Product (GDP) was used to measure the value of economic growth and Tourism Receipts as proxy of tourism activity. The volume of international tourist arrivals/tourist revenue can be alternatively used as proxy of tourism activity (Wang and Godbey, 1994). But, according to Gunduz and Hatemi-J (2005) and Kim et al., (2005) Tourism Receipts are commonly used to measure the tourism activity. Time-series data of Tourism Receipts has been obtained from the Market Research Division, Ministry of Tourism, India whereas Time-series data for GDP has been collected from Economics Trading and RBI. Data for GDP and Receipts from tourism sector in India was collected for the year of 1991-2017. Both the variables (GDP and Receipts from



tourism sector) have been taken in logarithmic form to make them stationary at lesser order of integration.

Analysis and Interpretation Unit Root Test Results

The first step in the analysis is to verify the stationarity of the data series. The unit root property of the data series is crucial for the causality analysis. Variables that are non-stationary can be made stationary by differencing the number of differencing (d) required to make the series stationary identifies the order of integration 1(d). If the time series data of each variable is found to be non-stationary at level, then there may exist a long run relationship between these variables.

To test for the existence of unit roots and to determine the degree of differences in order to obtain the stationary series of GDP and Receipts from tourism sector, Augmented Dickey-Fuller (ADF) test was performed at the levels, but null hypothesis of unit root for both variables was not rejected at levels. When the series were first differentiated, both the series were found to be stationary and integrated at the order of one 1(1). Results of ADF test for GDP have been reported in Table no III. The computed ADF test-statistic (-4.080397) is smaller than the critical values at 1% (-3.808546), 5% (-3.020686) and 10% (-2.650413) level of significance, therefore H_0 can be rejected. It means the GDP series doesn't have a unit root problem and the GDP series is a stationary series at 1%, 5% and 10% level of significance. Further, this result is also reliable because the Durbin-Watson statistics is good that means the GDP series may have not autocorrelation problem. Beside it, p value is less than 0.05 so null hypothesis can be rejected i.e. it means GDP is a stationary series.

Table III: Result of Augmented Dickey-Fuller test statistic

Null Hypothesis: DGDP has a unit root/A non-stationarity series					
		t-Statistic	Prob.*	Variable	Coefficient
		-4.080397	0.0056	Durbin-Watson stat	2.193683
Test critical values	1% level	-3.808546		R-squared	0.480514
	5% level	-3.020686		Adjusted R-squared	0.451654
	10% level	-2.650413		F-statistic	16.64964

Source: Calculated through E-views;

Note: (*) Indicates significance at 5% level

When variable Receipts from tourism was first differentiated, this series was also found to be stationary and integrated at the order of one 1(1). Results of ADF test for Receipts from tourism sector have been reported in Table IV. The null hypothesis of unit root for Receipts from tourism was also not rejected at level. The computed ADF test-statistic (-3.222258) is greater than the critical values at 1% level of significance i.e. -3.705676, but smaller than 5% and 10% level of significance -3.000696 and -2.664673 respectively, therefore H_0 can be rejected. It means the Receipts from tourism series don't have a unit root problem and the Receipts from tourism series is a stationary series at 10% and 5% significant level. Furthermore, this result is also consistent because the Durbin-Watson statistics is good that means the receipts series may have not autocorrelation problem. Apart from it, p value is less than 0.05 so null hypothesis can be rejected i.e. it means receipts is a stationary series and it has not unit root.

If the time series data of each variable is found to be non-stationary at level, then there may exist a long run relationship between variables. Co-integration is a powerful concept, because it helps to study the stationary relationship among two or more time series, each of which is individually non-stationary. A series is said to be integrated if it accumulates some past effects, such a series is non-stationary because its future path depends upon all such past influences. To examine the co-integration relationship between GDP and receipts from tourism sector,



present study adopted the procedure developed by Johansen (1988, 1991). The Johansen procedure proposed two test statistics for testing the number of co-integrating vectors, a trace test (Tr) and a Max-Eigenvalue test (MAX) statistics. Table V reports the results of Johansen test, based on Max Eigenvalue and Trace statistic test. It depicts that null hypothesis of no co-integration was rejected at 5% level of significance.

Table IV: Result of Augmented Dickey-Fuller test statistic

Null Hypothesis: DRECEIPTS has a unit root/ A non-stationary series					
		t-Statistic	Prob.*	Variable	Coefficient
		-3.222258	0.0336	Durbin-Watson stat	1.725633
Test critical values	1% level	-3.705676		R-squared	0.365816
	5% level	-3.000696		Adjusted R-squared	0.330584
	10% level	-2.664673		F-statistic	10.38295

Source: Calculated through E-views;
Note: (*) Indicates significance at 5% level

Table V: Unrestricted Cointegration Rank Test

Series: GDP and Receipts from Tourism Sector				
Trend assumption: No deterministic trend				
Trace Test				
Hypothesized No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.
r=0	0.344699	8.877919	15.49471	0.3768
r≤1	0.021011	0.424699	3.841466	0.5146
Max-Eigen Test				
Hypothesized No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.
r=0	0.344699	8.453220	14.26460	0.3345
r≤1	0.021011	0.424699	3.841466	0.5146
Trace and Max-eigenvalue test indicates no cointegration at the 0.05 level				

Source: Calculated through E-views;
Note: r stands for the number of cointegrating vectors; (*) Indicates significance at 5% level

Table V shows the absence of cointegrating relationship between the variables of the study. Since all the variables are not cointegrated, the standard granger causality test to determine short run causal relationship between the variables can be performed without including the error correction term.

Empirical Results of Causality

The traditional practice in testing the direction of causation between two variables involves standard Granger framework. The Granger causality test consists of estimating the following equations:

$$GDP_t = \beta_0 + \sum_{i=1}^n \beta_{1i} GDP_{t-i} + \sum_{i=1}^n \beta_{2i} RECEIPTS_{t-i} + U_t \dots (1)$$

and

$$RECEIPTS_t = a_0 + \sum_{i=1}^n a_{1i} RECEIPTS_{t-i} + \sum_{i=1}^n a_{2i} GDP_{t-i} + V_t \dots (2)$$

If the coefficients of β_{2i} are statistically significant but a_{2i} are not statistically significant, then GDP is said to have been caused by Receipts from Tourism sector (unidirectional). The reverse causality holds if coefficients of a_{2i} are statistically significant while β_{2i} are not. But if both a_{2i} and β_{2i} are statistically significant, then causality runs both ways (Bi directional).

Standard Granger Causality test suffers from major shortcoming in the sense that it ignores stationarity of individual variables. First of all unit root test has been applied to each series individually in order to provide information about the data being stationary. To test for the existence of unit roots and to determine the degree of differences in order to obtain the stationary series of GDP and Receipts, Augmented Dickey-Fuller Test (ADF) has been applied in the current research paper. Apart from it, long run relationship between the variables has been verified through Johansen' cointegration test.

The hypothesis to be tested for achieving the earlier mentioned objective of the study is as follow:

Table VI: Hypotheses taken in the current study

	Hypothesis: 1	Hypothesis: 2
H ₀	Tourism Receipts do not Cause GDP	GDP does not Cause Receipts
H ₁	Tourism Receipts Cause GDP	GDP Causes Receipts

Table VII: Pairwise Granger Causality Test

Null Hypothesis:	F-Statistic	Prob.	
Tourism Receipts do not Cause GDP	4.14631	*0.0385	Rejected
GDP does not Cause Tourism Receipts	1.27750	*0.3093	Accepted

Source: Calculated through E-views;

Note: (*) Indicates significance at 5% level

Granger Causality test has been applied to examine the causal relationship between tourism receipts and Gross Domestic Product (GDP). The result of Granger causality test for India as presented in the table VII show that the null hypothesis i.e. 'GDP does not cause Tourism Receipts', is accepted meaning thereby Tourism receipts in India are not affected by growth in GDP. Thus, economic expansion is not necessary for tourism development in the country. But the hypothesis i.e. 'Tourism Receipts do not cause GDP' is rejected at 5% level of significance. It shows that tourism receipts cause growth in GDP. Promoting tourism via developing a long-term tourism strategic plan will contribute to economic growth in India. In other words, tourism expansion acts as an engine and an important determinant of overall long-run economic growth in India. Therefore, it appears that Granger causality runs one way, from tourism receipts to GDP, but not the other way.

Conclusion

Many countries have been able to attain high growth rate by specializing in the tourism industry. Current research paper attempted to study the causal relationship between tourism receipts and economic growth in India. Thus, current research paper contributed to understand the impact of tourism on the Indian economy. The empirical analysis suggested that the variables that used in the current research paper presented a stationarity series. The Granger causality test is then used to investigate the direction of causality between tourism receipts and economic growth. The evidence however suggests long-run causality between tourism receipts and economic growth and the causality runs from tourism receipts to economic growth. In general, the study appears to support tourism led-growth (TLG) hypothesis for India.

The significant impact of tourism on Indian economy justifies the necessity of promoting and increasing tourism demand and fostering the development of tourism supply. Policies which are drawn from current research paper depict that government should generate the revenue, employment and income for the local residents. Besides it, government should provide the incentives to tourism industry in the form of basic infrastructure such as roads, big air ports, good transport system and tax incentives to the hotels and other tourism related industries. Government should also ensure the security of both foreign and domestic tourists. Furthermore, India can improve its economic growth performance by strategically harnessing the contribution of the tourism industry. Since tourism is an important engine of economic



growth, it is necessary to increase domestic tourism in order to have more decentralization of development caused tourism sector. Moreover, the research paper can be further expanded by comparing economic performance of India with more Asian countries. Further study can be conducted by taking more than two variables to check the causal relationship.

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