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Relationship between Growth and Tourism: An Empirical Investigation from India

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EDITORIAL BOARD EXCERPT Initially at the Time of Submission (ToS) submitted paper had a 20% plagiarism, which is an accepted percentage for publication. The editorial board is of an observation that paper had been rectified and amended by the author (Sikha) based on the reviewer's remarks and revisions at various stages. The comments related to this manuscript are noticeable related to Relationship between Growth and Tourism both subject-wise and research-wise. The study made a remarkable attempt to examine the trends of **Foreign Exchange Earnings from tourism in India** and also to investigate its impact on the economic growth of India. The past literature related to GDP and tourism is explained in a tabular form, which is really very well presented. All the comments had been shared at a variety of dates by the authors' in due course of time and same had been integrated by the author in calculation. By and large all the editorial and reviewer's comments had been incorporated in paper at the end and further the manuscript had been earmarked and decided under "**Empirical Research Paper**" category as The study used secondary data, which have been collected from various source like tourism websites, handbook of statistics (RBI) and Cointegration approach is being applied to comprehend that integration between GDP and tourism.

ABSTRACT

Purpose: A Purpose: India, being on path of modern economic growth through structural transformation, tourism is the best vehicle to accelerate it. Thereby, it contributes majorly in the growth of economy. Many of such, direct economic benefits includes employment, income, foreign exchange, increased government revenue etc. The present paper makes a modest attempt to examine the correlation between GDP and foreign exchange earnings (FEE) from tourism

Design/Methodology/Approach: The present paper uses the timeline data collected from various sources from 2004- 2018. ADF test, Cointegration approach and causality test are being applied to achieve the objectives of the study.

Findings: The findings revealed that both variables cointegrated, but, there is an absence of causality among them.

Implications: The present study adds to the present literature which would be beneficial for future research and it will also help the policy makers in understanding the trends to have an analytical viewpoint on the subject.

KEYWORDS Empirical | Foreign Exchange Earnings | GDP | Relationship | Tourism

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Introduction

India has a large travel and tourism market offering an assorted range of tourism products such as adventure, medical, sports, eco-tourism and religious tourism. In 2028, the contribution of tourism sector in India's GDP is estimated to increase from US$ 233.05 billion to US$ 493.11 billion. The FEE has also increased by 4.70 % to US$ 28.59 billion. The foreign tourist arrival has also shown an increase by 5.20 % to 10.56 million. Indian government has targeted to get 20 million foreign tourists by 2020. Government of India has started many initiatives like 'Incredible India' and 'Athiti Devo Bhava', Visa on Arrival', Incredible India 2.0, to boost tourism of India.in Oct 2018, a statue of Sardar Vallabhbhai Patel known as the ' Statue of Unity' was also launched, which is world's tallest statue. This statue is projected to increase tourism revenue in future. India gets large number of overseas tourists from UK followed by US, France, Canada, Germany, Australia and Singapore. Out of total percentage of tourists, 20.8 % are women from international destination. Large number of tourism is pilgrimage oriented which requires improvement in pilgrim destinations and travel facilities. In coming years, India will be identified as one of the world's foremost tourist growth Centres and is expected to have fastest growth rate in economic activity from travel and tourism.

The present study aims to examine the trends of FEE from tourism in Inda and also to investigate its impact on the economic growth of India.

The paper is divided into following sections, the first section explains the tourism in India, second section presents the past literature related to GDP and tourism, third section describes the data and methodology used in the study, next section enlightens the analysis of results followed by conclusion and references used in the study.

Review of literature

Author	Objective	Methodology	Results
Eugenio et al, 2005	To examine the economic growth of Latin American countries and its relation with their tourism revenue	Panel data regression	The results revealed significant scores between both variables especially in low income countries.
Kim et al, 2005	To explore the causality between growth and tourism of Taiwan	Stationary test, Cointegration test and causality tests	The results exhibited bidirectional causality between growth and tourism.
Lee and Chang, 2007	To find out causality between growth and tourism among OECD countries	Cointegration and causality approach	The findings established uni-directional causality
Tang and Jang, 2008	To scrutinize the performance of 4 tourism related industries of USA	Cointegration approach	The findings exhibited that there is a lack of cointegration between performances of tourism related industries.
Dritsakis, 2009	To empirically explore the equilibrium among tourism and growth of Mediterranean countries	Cointegration approach	The results revealed that tourism receipts significantly impacts the GDP of Mediterranean countries.
Chen and Wei, 2009	To make inter comparison in tourism and GDP of Taiwan and Korea	GARCH effect	The findings discovered that GDP of Taiwan is impacted by tourism revenue but it's not the same in case of South Korea.
Kreishan, 2011	To inspect the relationship of GDP of Jordan and its tourism revenue	Stationarity effect and causality test	The findings confirm the unidirectional causality between both as per past literature.
Jayathilake, 2013	To scrutinize the interconnection between GDP of Srilanka and tourism	Unit root approach, cointegration and causality approach	The findings supported the tourism led economic growth in Srilanka in accordance with past literature
Ertugrul and Mangir, 2017	To empirically investigate how tourism is linked with economic growth	Cointegration and causality approach	The scores of the findings significantly support the alternate hypotheses.
Trang et al, 2014	To empirically study how GDP of Pakistan is affected by tourism	Cointegration and granger approach	The result highlighted that both are significantly related in Pakistan

Data and Methodology

The study used secondary data, which have been collected from various source like tourism websites, handbook of statistics (RBI). The timeline data has been collected from 2004-2018.due to the nature of the data, it becomes imperative to check the Stationarity of data before analyzing the cointegration and granger causality approach.to test the Stationarity of data, unit root test, namely Augmented-Dicky fuller (ADF) is being applied. Cointegration approach is being applied to comprehend that integration between GDP and tourism.in order to examine the causal relationship, granger causality test if being employed.

Results and analysis

Trend and analysis of FEE rate from tourism

To understand the impact of FEE from tourism on GDP, it's important to analyze the trends of FEE rate from tourism in India. Table 1 and figure 1 exhibit this trend from 2004 to 2018.it depicts that over the years, the earnings from tourism has increased with good rate.

Table 1: Trend of FEE rate from tourism

Year	Foreign tourist Arrivals in India (millions)
2004	3.46
2005	3.92
2006	4.45
2007	5.08
2008	5.28
2009	5.17
2010	5.78
2011	6.31
2012	6.58
2013	6.97
2014	7.68
2015	8.03
2016	8.8
2017	10.04
2018	10.56

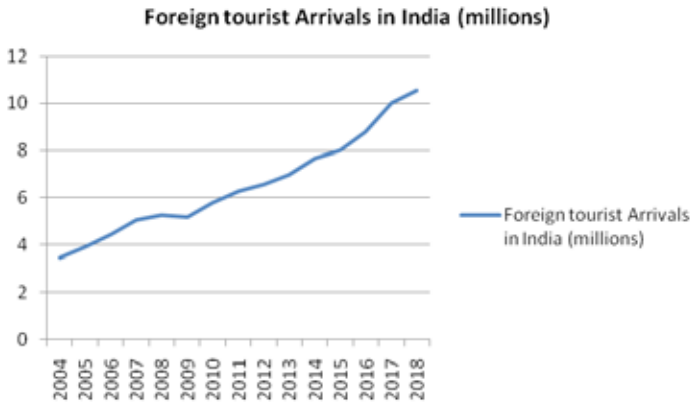

Figure 1: Trend of FEE from tourism

Trends and composition of Indian GDP and FEE from tourism

Table 2 exhibits the trends of GDP of India and FEE from tourism in India over the last 15 years from 2004 to 2018 which helps in understanding the landscape of India.

Table 2: Trend of GDP and FEE from tourism in India (in crores)

Year	FEE (crores)	GDP (crores)
2004	27,944	54,80,380
2005	33,123	5480380
2006	39,025	5914614
2007	44,360	6881007
2008	51,294	7093403
2009	53,700	7651078
2010	64,889	8301235
2011	77,591	8736331
2012	94,487	9213017
2013	107,671	9801370
2014	123,320	10527774
2015	135,193	11369493
2016	154,146	12298327
2017	177,874	13179857
2018	194,882	14077586

Table 3: Results of Unit root test

Null Hypothesis: D(GDP_54_80_380) has a unit root				
Exogenous: Constant, Linear Trend				
Lag Length: 0 (Automatic - based on SIC, maxlag=2)				
			t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic			-3.752479	**0.0599**
Test critical values:	1% level		-4.992279	
	5% level		-3.875302	
	10% level		-3.388330	
*MacKinnon (1996) one-sided p-values.				
Augmented Dickey-Fuller Test Equation				
Dependent Variable: D(GDP_54_80_380,2)				
Method: Least Squares				
Date: 08/24/19 Time: 00:38				
Sample (adjusted): 3 14				
Included observations: 12 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(GDP_54_80_380(-1))	-1.220772	0.325324	-3.752479	0.0045
C	508601.8	194634.7	2.613110	0.0281
@TREND("1")	41773.08	21069.52	1.982631	0.0787
R-squared	0.610080	Mean dependent var		38624.58
Adjusted R-squared	0.523431	S.D. dependent var		311078.5
S.E. of regression	214749.9	Akaike info criterion		27.60465
Sum squared resid	4.15E+11	Schwarz criterion		27.72588
Log likelihood	-162.6279	Hannan-Quinn criter.		27.55977
F-statistic	7.040826	Durbin-Watson stat		1.435979
Prob(F-statistic)	0.014434			

***p value < 0.05- significant**

Table 4: Unit root results

Null Hypothesis: D(FOREIGN_EXCHANGE_EARNINGS_27944,2) has a unit root				
Exogenous: None				
Lag Length: 0 (Automatic - based on SIC, maxlag=2)				
			t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic			-4.271477	**0.0006**
Test critical values:	1% level		-2.792154	
	5% level		-1.977738	
	10% level		-1.602074	
*MacKinnon (1996) one-sided p-values.				
Augmented Dickey-Fuller Test Equation				
Dependent Variable: D(FOREIGN_EXCHANGE_EARNINGS_27944,3)				
Method: Least Squares				
Date: 08/24/19 Time: 00:40				
Sample (adjusted): 4 14				
Included observations: 11 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(FOREIGN_EXCHANGE_EARNINGS_27944(-1),2)	-1.383937	0.323995	-4.271477	**0.0016**
R-squared	0.644145	Mean dependent var		-559.3636
Adjusted R-squared	0.644145	S.D. dependent var		8190.997
S.E. of regression	4886.221	Akaike info criterion		19.91273
Sum squared resid	2.39E+08	Schwarz criterion		19.94891
Log likelihood	-108.5200	Hannan-Quinn criter.		19.88993
Durbin-Watson stat	1.898382			

***p value < 0.05- significant**

To employ cointegration test, it is a precondition to check the Stationarity f the data, which is done using Augmented Dicker fulley (ADF) test. The unit root results are exhibited in table 3 and table 4. The findings clarifies that both GDP and FEE from tourism are non-stationary at first level difference.

Table 5: Cointegration approach results

Date: 08/24/19 Time: 00:13				
Sample (adjusted): 3 14				
Included observations: 12 after adjustments				
Trend assumption: Linear deterministic trend				
Series: FOREIGN_EXCHANGE_EARNINGS_27944 GDP_54_80_380				
Lags interval (in first differences): 1 to 1				
Unrestricted Cointegration Rank Test (Trace)				
Hypothesized		Trace	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.804360	26.75857	15.49471	**0.0007**
At most 1 *	0.450310	7.180812	3.841466	**0.0074**
Trace test indicates 2 cointegrating eqn(s) at the 0.05 level				
Unrestricted Cointegration Rank Test (Maximum Eigenvalue)				
Hypothesized		Max-Eigen	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.804360	19.57776	14.26460	**0.0066**
At most 1 *	0.450310	7.180812	3.841466	**0.0074**
Max-eigenvalue test indicates 2 cointegrating eqn(s) at the 0.05 level				

***p value < 0.05- significant**

In order to determine the relationship between GDP and FEE from tourism, Cointegration approach (Johansen's cointegration test) is being applied. This test is sensitive to lag length employ, hence, Akaike information criterion is applied to decide optimal lag length (2 lags). Table 5 above exhibits the results of the cointegration approach revealing significant results between sample series.

Table 6: Granger causality results

Pairwise Granger Causality Tests Date: 08/24/19 Time: 00:18 Sample: 1 14 Lags: 2			
Null Hypothesis:	Obs	F-Statistic	Prob.
GDP_54_80_380 does not Granger Cause FOREIGN_EXCHANGE_EARNINGS_27944	12	2.12501	**0.1900**
FOREIGN_EXCHANGE_EARNINGS_27944 does not Granger Cause GDP_54_80_380		7.71352	**0.0170**

Granger causality test is being applied to know the causality between two variables, after getting significant cointegration results in the sample series. The results of granger causality are exhibited in table 6 which accepts that null hypothesis revealing that GDP does not granger cause FEE from tourism and vice a versa.

Conclusion

The current studyaimed to empirically analysis the relationship between FEE from tourism and GDP of India. To achieve the objective of the study, annual data was collected from 2004-2018 and Stationarity of data was tested using ADF test followed by cointegration and causality tests. The result of unit root clarifies that both variables are non-stationary at first level difference. Cointegration results also established that both variables i.e. GDP and FEE from tourism are cointegrated. The findings confirmed absence of causality between the two. The findings proved that both variables don not influence each other, and both are affected by others factors too. But, still it is desirable that Indian government should play proactive role in increasing FEE from tourism by improving tourism management in our country.

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Annexure 1

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01-April-2019	1173716172 (turnitin)	2801	16122

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Reviewers Comments

Reviewer's comment 1:
It is a very well structured paper. Introduction itself defines the need and objective of the study. The tabular literature review is nicely presented which is easy to understand.

Reviewer's comment 2:
The facts and figures presented in the study are interesting. The author has made a good attempt in knowing the relationship between GDP and FEE by using the secondary data.

Reviewer's comment 3:
The study used secondary data and timeline data has been collected from 2004-2018, which is quite a sufficient long period. The researcher has applied all the necessary tests in the paper before analyzing the cointegration and granger causality approach.

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