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IMPACT OF FOREIGN TOURISM ARRIVALS AND FOREIGN EXCHANGE EARNINGS ON GROSS DOMESTIC PRODUCTION: A REGRESSION ANALYSIS FROM INDIA

Dr. Sanjay Joshi
Assistant Professor at SDJ International College, Vesu, Surat.

Ms. Priti Mehta
Assistant Professor at Bhagwan Mahavir College of Business Administration, Vesu, Surat.

ABSTRACT—
The basic purpose of the present study is to measure the impact of tourism sector performance on Gross Domestic Production of the India. Further the study is extended towards comparison of variables on the basis of percentage change method. In order to fulfill the mentioned objectives, the study employed regression analysis and simple percentage change method. Ordinary Least Square (OLS) method carried out with various diagnostic checks in E-views software. Necessary secondary data have been sourced from official website of Ministry of Tourism, Reserve Bank of India from January 2014 to December 2016 which used for percentage changes analysis. However, for regression analysis study periods consists of 2001 to 2016 yearly 16 observations. The study concludes that FEE and FTA is positively affecting to GDP contribution of Trade, Hotels, Transport and Communications while FTA is negatively affecting to total GDP of country. Economists and tourism companies can be benefited with this comparison and prediction.

KEY WORDS: *Regression Analysis, Diagnostic Checks, Economic Indicator, Tourism.*

INTRODUCTION:

Although many of us have been "tourists" at some point in our lives, defining what tourism actually is can be difficult. Tourism is the activities of people traveling to and staying in places outside their usual environment for leisure, business or other purposes for not more than one consecutive year. Tourism is a dynamic and competitive industry that requires the ability to adapt constantly to customers' changing needs and desires, as the customer's satisfaction, safety and enjoyment are particularly the focus of tourism businesses.

Tourism refers to the business of providing accommodation & associated services to the people visiting places. Tourism involves two elements i.e. the journey to the destination & stay. Tourism is a temporary short term moment of people of destinations outside the place of their residence. Tourism is undertaken for recreation, sight seen, pilgrimage for medical reasons, for adventure etc.

TOURISM SECTOR IN INDIA:

The Indian tourism and hospitality industry has emerged as one of the key drivers of growth among the services sector in India. Tourism in India has significant potential considering the rich cultural and historical heritage, variety in ecology, terrains and places of natural beauty spread across the country. Tourism is also a potentially large employment generator besides being a significant source of foreign exchange for the country.

MARKET SIZE:

India's rising middle class and increasing disposable incomes has continued to support the growth of domestic and outbound tourism.

Domestic Tourist Visits (DTVs) to the States/Union Territories (UTs) grew by 15.5 per cent y-o-y to 1.65 billion (provisional) during 2016 with the top 10 States/UTs contributing about 84.2 per cent to the total number of DTVs, as per Ministry of Tourism.

As per Ministry of Tourism, foreign tourist arrivals (FTAs) in India increased 19.5 per cent year-on-year to 630,000 in May 2017. FTAs on e-tourist visa increased 55.3 per cent year-on-year to 68,000 in May 2017.

India's foreign exchange earnings (FEEs) through tourism increased by 32 per cent year-on-year to reach US$ 2.278 billion in April 2017, as per data from Ministry of Tourism, Government of India.

India is expected to move up five spots to be ranked among the top five business travel market globally by 2030, as business travel spending in the country is expected to treble until 2030 from US$ 30 billion in 2015.

International hotel chains will likely increase their expansion and investment plans in India, and are expected to account for 50 per cent share in the Indian hospitality industry by 2022, from the current 44 per cent.

INVESTMENTS:

The tourism and hospitality sector is among the top 10 sectors in India to attract the highest Foreign Direct Investment (FDI). During the period April 2000-March 2017, the hotel and tourism sector attracted around US$ 10.14 billion of FDI, according to the data released by Department of Industrial Policy and Promotion (DIPP).

With the rise in the number of global tourists and realizing India's potential, many companies have invested in the tourism and hospitality sector. Some of the recent investments in this sector are as follows:

- Make My Trip raised US$ 330 million from Ctrip.com International Ltd, Naspers Ltd and few undisclosed investors, in a bid to withstand competition in the ticketing segment.
- Make My Trip has agreed to buy Ibibo Group's India travel business at a deal value of US$ 720 million, thus creating India's largest online travel firm with a value of US$ 1.8 billion, as estimated by Morgan Stanley.
- Yellow Tie Hospitality Management Llp, specialising in franchise management of food and beverages firms, plans to invest up to US$ 15-20 million in five restaurant ventures of celebrity chef Mr Harpal Singh Sokhi, with the aim to have 250 outlets under these brands by 2020.
- Chaudhary Group (CG) Hotels & Resorts aims to have 200 hotels operational by 2020.
- Dine Equity Incorporation has signed a franchisee partnership deal with food services firm Kwal's Group, in order to enter the Indian markets with their breakfast chain IHOP.
- As per industry experts, mid-hotel segment in India is expected to receive investments of Rs 6,600 crore (US$ 990 million) excluding land over next five years, with major hotel chains like Mariott, Carlson Rezidor and ITC planning to set up upscale, budget hotels in state capitals and tier-II cities.
- Accor Hotels, a French multinational hotel group, plans to expand its footprint in Guwahati and Kolkata by adding more 550 rooms to its portfolio of hotels in the next three years.

GOVERNMENT INITIATIVES:

Some of the major initiatives taken by the Government of India to give a boost to the tourism and hospitality sector of India are as follows:

- The Ministry of Environment, Forest and Climate Change, Government of India, is planning to revise India's coastal regulation norms aimed at opening up the 7,500 km long coastline for developmental activities like tourism and real estate.
- The Central Government has taken a number of steps for smooth transitioning to cashless mode of payment to ensure that no hardship is faced by the tourists and the tourism industry remains unaffected from government's demonetization move.
- Maharashtra Tourism Development Corporation (MTDC) has come up with a unique tourism experience of visiting the open cast coal mine of Gondegaon and underground coal mine of Saoner, which are near Nagpur and part of Western Coalfields Limited.
- A Tripartite Memorandum of Understanding (MoU) was signed among the Indian Ministry of Tourism, National Projects Construction Corporation (NPCC), National Buildings Construction Corporation (NBCC) and Government of Jammu and Kashmir for the implementation of tourism projects in Jammu and Kashmir.

LITERATURE:

Gugushvili T., Et. al. (2017) argued that the observed rapid growth of tourist sector in the areas under investigation triggers economic growth, however the development is still fragmented and incomplete, as other branches of economy like agriculture, trade, etc., that should be connected to tourism activities, do not enjoy the expected growth. The research combines innovative and well established methodological approach for collecting and analyzing qualitative data with help of MAXQDA and MAX App.

Karymshakov. K., Et. al. (2009) Found that there is a unidirectional causality in America, Latin America & Caribbean and World from GDP to tourism revenue. While in case of East Asia, South Asia and Oceania the reverse direction of causality was found from tourism revenue to GDP. No causal relationship was found in Asia, Middle East and North Africa, Central Asia and Sub Saharan Africa.

Mahipal Singh. Y. et.al (2011) studied and found that foreign exchange receipts from the tourism industry significantly contribute to gross domestic product, employment and transport infrastructure. Moreover, they imply that Indian and Sri Lankan economies could enhance their economic growth by strategically strengthening their tourism industry.

Umer Jeelanie Banday and Dr.Ranjan Aneja (2015) found from the study that there is a significant relationship between foreign tourists and foreign exchange earnings (as proxy to Economics growth) in India over the period of 1991-2012. Further the study also finds the significant impact of foreign tourist on environmental degradation in India. The study confirms the tourism-led growth hypothesis and existence of the EKC.

Mahalakshmi V., Stanley. P and Joseph Michal Raj (2016) worked and proved that tourism is one of the fastest growing service industries in the country with great potentials for its further expansion and diversification. Tourism industry plays a major role in any country's economic development. It helps significantly to the country for creating the employment opportunities to the large number of people. There is also a need to increase the government's role to make India flourishing in tourism and established in the global market. India has rich source in tourism for the establishment of the brand. Of course India has been launched the Incredible India to make tourism better.

Ramphul Ohlan (2017) study investigates relationship between tourism and economic growth in India by considering the relative importance of financial development over the period of 1960–2014. The results of newly developed Bayer and Hanck combined test indicate that tourism, economic growth and financial development are co integrated. It is shown that the inbound tourism spurs economic growth in India both in long-run and short run. In addition, the analysis indicates the presence of a long-run one-way

Granger- causation running from tourism to economic growth. It is suggested that policies for attracting more international tourists should be promoted.

METHODOLOGY:

The basic purpose of the present study is to measure the impact of tourism sector performance on Gross Domestic Production of the India. Further the study is extended towards comparison of variables on the basis of percentage change method. In order to fulfill the mentioned objectives, the study employed regression analysis and simple percentage change method. The regression analysis carried out with one dependent variable i.e. Gross domestic Production while independent variable consists of Foreign Trade Arrivals to India and Foreign Exchange Earnings of India. Another regression analysis carried out on dependent variable is GDP contribution from Trade, Hotels, Transport and Communication and independent variables as FEE and FTA. Ordinary Least Square (OLS) method carried out with various diagnostic checks in E-views software. Necessary secondary data have been sourced from official website of Ministry of Tourism, Reserve Bank of India and also used books, journals, Tourism Reports for more information.

The study periods consists of only three year from January 2014 to December 2016 which gave total monthly observation of 36 which used for percentage changes analysis. However, for regression analysis study periods consists of 2001 to 2016 yearly 16 observations. Criteria selection has been done from the extensive literature. The study will be useful to retail as well as institutional investor who wish to invest in tourism stocks. Regression analysis will definitely helpful to prediction and measuring dependency among the independent and dependent variables. Further economists and tourism companies can be benefited with this comparison and prediction. Based on the above methodology following chapter is on data analysis and interpretation.

Empirical Study:

Table 1 FTA and FEE in India during 2014 to 2016

Month	Foreign Tourist Arrivals (Nos.)			Percentage Change	
	2014	2015	2016	2015/14	2016/15
January	7,57,786	7,90,854	8,44,533	4.4%	6.8%
February	7,55,678	7,61,007	8,48,782	0.7%	11.5%
March	6,90,441	7,29,154	8,09,107	5.6%	11.0%
April	5,35,321	5,41,551	5,92,004	1.2%	9.3%
May	4,65,043	5,09,869	5,27,466	9.6%	3.5%
June	5,02,028	5,12,341	5,46,972	2.1%	6.8%
July	5,68,871	6,28,323	7,33,834	10.5%	16.8%
August	5,75,750	5,99,478	6,52,111	4.1%	8.8%
September	5,09,142	5,42,600	6,08,177	6.6%	12.1%
October	6,68,398	6,83,286	7,41,770	2.2%	8.6%
November	7,65,497	8,15,947	8,78,280	6.6%	7.6%
December	8,85,144	9,12,723	10,21,375	3.1%	11.9%
Total	76,79,099	80,27,133	88,04,411	4.5%	9.7%
Month	**Foreign Exchange Earnings (in Rs. crore)**			**Percentage Change**	
	2014	**2015**	**2016**	**2015/14**	**2016/15**
January	11,664	12,100	13,671	3.7%	13.0%

February	11,510	11,642	13,661	1.1%	17.3%
March	10,479	11,133	12,985	6.2%	16.6%
April	9,179	10,091	11,495	9.9%	13.9%
May	7,936	9,505	10,260	19.8%	7.9%
June	8,366	9,564	10,677	14.3%	11.6%
July	10,284	11,982	14,285	16.5%	19.2%
August	10,385	11,411	12,553	9.9%	10.0%
September	9,057	10,415	11,642	15.0%	11.8%
October	10,041	10,549	12,100	5.1%	14.7%
November	11,431	12,649	14,259	10.7%	12.7%
December	12,988	14,152	16,558	9.0%	17.0%
Total	1,23,320	1,35,193	1,54,146	9.6%	14.0%

Source: Tourism Ministry Report 2016

Regression Analysis:

Table 2 Results for Regression between Tourism and Total GDP

Variable	Coefficient	Std. Error	t-Statistic	Prob.
FEE	1.607414	0.175851	9.140794	0.0000
FTA	-0.011510	0.003998	-2.878981	0.0129
C	54891.44	10487.93	5.233772	0.0002

R-squared	0.985358	Mean dependent var	98647.63
Adjusted R-squared	0.983106	S.D. dependent var	51178.11
S.E. of regression	6652.034	Akaike info criterion	20.61059
Sum squared resid	5.75E+08	Schwarz criterion	20.75545
Log likelihood	-161.8847	Hannan-Quinn criter.	20.61801
F-statistic	437.4365	Durbin-Watson stat	1.817520
Prob(F-statistic)	0.000000		

Source: E-views Output

$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + e$

Y = Total Gross Domestic Production of the country (Independent Variable)

α = Constant Value

X_1 = Total Foreign Exchange Earnings (Dependent Variable - 1)

X_2 = Total Foreign Tourist Arrivals in India (Dependent Variable – 2)

B_1 and B_2 = Coefficient of X_1 variable and Coefficient of X_2 variable respectively

e = Error Term

Regression Equation – 1:

Total GDP = 54891. 44 + 1.6074 (FEE) – 0.0115 (FTA) + 6652.03

Both the coefficient of independent variable i.e. Beta value is statistically significant indicating probability values 0.0000 and 0.0129 which is less than 0.05 so we reject the null hypothesis of beta is equal to zero. Thus beta values are statistically significant but FTA is negatively affecting to total GDP of India while FEE is positively affecting and beta value is also greater than 1. Moreover, F statistic is found to be statistically significant indicating model can be fitted. However, Durbin Watson statistics is somewhat nearer to 2 but still there exists autocorrelation. Further diagnostic checks are as follows.

Table 3 Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	0.910933	Prob. F(2,13)	0.4263
Obs*R-squared	1.966679	Prob. Chi-Square(2)	0.3741
Scaled explained SS	2.069563	Prob. Chi-Square(2)	0.3553

Source: E-views Output

Table number 3 indiacates Heteroskedasticity Tests by Breusch-Pegan-Godfrey. All the probabily values are greater than 0.05 so we fail to reject the null hypothesis of Heteroskedasticity does not exists that means variances in regression residuals are equal.

Table 4 Residual Normality Test

Series: Residuals	
Sample 2001 2016	
Observations 16	
Mean	-7.28e-12
Median	-342.8304
Maximum	16056.43
Minimum	-9688.957
Std. Dev.	6192.706
Skewness	0.875930
Kurtosis	4.188074
Jarque-Bera	2.987021
Probability	0.224583

Source: E-views Output

Table number 4 shows the normality test for obtained residuals from the regression results. Mean and median value for residual of regression is negative and further Jarque-Bera statistics is 2.9870 with probability value of 0.224583 which is much higher than 0.05 so we fail to reject the null hypothesis of residual series is normally distributed.

Thus, the residual diagnostic checks are favourable for both the measures i.e. Heteroskedasticity and Normallity of residuals. Eventhough R squares and adjusted R squared are found to be 0.9853 and 0.9831 respectively which is indiacating there may be existence of spurious regression. But rest of all other diagnostics checks are favourable and validating the regression estimation.

Table 5 Results for Regression between Tourism and Total GDP_THTC

Variable	Coefficient	Std. Error	t-Statistic	Prob.
FEE	0.066216	0.010685	6.197238	0.0000
FTA	0.000882	0.000243	3.629816	0.0031
C	2152.065	637.2484	3.377122	0.0050

R-squared	0.993748	Mean dependent var	11170.06
Adjusted R-squared	0.992786	S.D. dependent var	4758.771
S.E. of regression	404.1786	Akaike info criterion	15.00895
Sum squared resid	2123684.	Schwarz criterion	15.15381
Log likelihood	-117.0716	Hannan-Quinn criter.	15.01637
F-statistic	1033.191	Durbin-Watson stat	1.153825
Prob(F-statistic)	0.000000		

Source: E-views Output

$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + e$

Y = Gross Domestic Production from Trade, Hotels, Transport & Communication (ID Variable)

α = Constant Value

X_1 = Total Foreign Exchange Earnings (Dependent Variable - 1)

X_2 = Total Foreign Tourist Arrivals in India (Dependent Variable – 2)

B_1 and B_2 = Coefficient of X_1 variable and Coefficient of X_2 variable respectively

e = Error Term

Regression Equation – 2:

GDP_THTC = 2152.07 + 0.0662 (FEE) + 0.0009 (FTA) + 404.179

Both the coefficient of independent variable i.e. Beta value is statistically significant indicating probability values 0.0000 and 0.0031 which is less than 0.05 so we reject the null hypothesis of beta is equal to zero. Thus beta values are statistically significant and positively affecting but beta value of FTA is very low so it is contributing very less in dependent variable.

Moreover, F statistic is found to be statistically significant indicating model can be fitted. Durbin Watson Statistics is not favorable for this model as there exists autocorrelation in the residual. Further diagnostic checks are as follows.

Table 6 Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	2.630431	Prob. F(2,13)	0.1098
Obs*R-squared	4.609519	Prob. Chi-Square(2)	0.0998
Scaled explained SS	1.242066	Prob. Chi-Square(2)	0.5374

Source: E-views Output

Table number 6 indiacates Heteroskedasticity Tests by Breusch-Pegan-Godfrey. All the probabily values are greater than 0.05 so we fail to reject the null hypothesis of Heteroskedasticity does not exists that means variances in regression residuals are equal.

Table 7 Residual Normality Test

Series: Residuals	
Sample 2001 2016	
Observations 16	
Mean	-1.22e-12
Median	-32.50773
Maximum	587.1459
Minimum	-523.4440
Std. Dev.	376.2698
Skewness	0.126309
Kurtosis	1.816342
Jarque-Bera	0.976574
Probability	0.613677

Source: E-views Output

Table number 7 shows the normality test for obtained residuals from the regression results. Mean and median value for residual of regression is negative and further Jarque-Bera statistics is 0.976574 with probability value of 0.613677 which is much higher than 0.05 so we fail to reject the null hypothesis of residual series is normally distributed.

Thus, the residual diagnostic checks are favourable for both the measures i.e. Heteroskedasticity and Normallity of residuals. Eventhough R squares and adjusted R squared are found to be 0.993748 and 0.992786 respectively which is indiacating there may be existence of spurious regression.

CONCLUSION:

The paper examines the impact of tourism performance in terms of Foreign Tourists Arrivals to India and Foreign Exchange Earnings on Indian Total GDP as well as Indian GDP contributed by Trade, Hotels, Transport and Communication. It was found that FTA is negatively affecting to total GDP of the country while it is positively affecting to GDP contributed by THTC. Further FEE is positively affecting to both the dependent variable strongly. However, percentage change analysis concludes that year on year Foreign Tourists Arrivals to India has increased significantly except in the month of MAY. Further Foreign Exchange Earnings have also exposed the downfall in the month of MAY and JUNE while rests of all month have shown positive movement.

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