LONG RUN RELATIONSHIP BETWEEN FOREIGN TOURIST ARRIVALS AND FOREIGN EXCHANGE EARNINGS: A CO- INTEGRATION ANALYSIS

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Abstract: *Tourism has become an important segment of Indian economy contributing substantially to its foreign exchange earnings. It accounts for one-third of the foreign exchange earnings (FEE) of India and also gainfully employs the highest number of people compared to other sectors. This sector also attracts the domestic tourist and foreign tourist in an enthuastic way which resulted in improving well balanced economy for the nation like in India. 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% annual growth rate.World over tourism has been recognized as one of the important instruments of economic development and employment generation, particularly in remote and backward areas. It is the largest service industry globally in terms of gross revenue as well as foreign exchange earnings. Tourism can play an important and effective role in achieving the growth with equity objective which India has set for itself. The growth in the tourism sector emerged as a very important contribution to the national economy and contributed quite a lot for employment generation in various tourism related activities.*

The present paper analyzes the trends in foreign exchange earnings of tourism industry in India and the economic contribution of this sector to Indian economy in the context of changes in the macroeconomic policies.

***Keywords:** FTA, FEE*

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I. INTRODUCTION

The emergence of tourism as a important source of foreign exchange earnings is importance to Indian economy. In the developing economies like Indian tourism has acquired tremendous importance owing to its emergence as an important exchange earner, beside its numerous direct social cultural and economic benefits. According to Jawaharlal Nehru " we must welcome friendly visitors from abroad for economic reasons, for tourism bring foreign exchange but even more so because this leads to greater understanding and mutual appreciation". It has been partially successful with increase in foreign tourist arrivals over the last decade, courtesy "Incredible India Campaign". The study focused on establishing the relationship between e foreign tourist arrivals and foreign exchange earnings.

II. REVIEW OF LITERATURE

Several studies have been conducted world over focusing on different aspects of tourism. Some of these studies focusing on the economic aspects of tourism industry are summarized below.

Karthik et al. (2012) examined the role of tourism industry in economic development of India. This paper attempts to evaluate the role of tourism as one of the service industries in India and its impact on the overall economic development of the country. Tourism industry in India is growing and it has potential for generating employment and earning large amount of foreign exchange besides impacting the country's overall economic and social development. This paper makes an attempt to provide an in-depth analysis of negative and positive impacts of tourism industry in India.

Ivano (2006) analyzed the impact of tourism on economic growth. The study explores the problem of measuring the economic impact of tourism which requires a broader view of the interaction between tourism and GDP. This paper presents a methodology for measuring the contribution of tourism to economic growth and it is tested with data for Cyprus, Greece and Spain. This study revealed the overall impact of tourism on Gross Domestic Product (GDP).

III .OBJECTIVES OF THE STUDY

To analyse the trends in contribution of tourism industry to foreign exchange earnings in India.

IV. METHODOLOGY OF THE STUDY

The paper is mainly based on the secondary data. The secondary data were collected from Ministry of tourism, annual report 2012-13. The study focused on establishing the relationship between e foreign tourist arrivals and foreign exchange earnings. The time series data has been used for the period from 1991 to 2012. Since, the data is time series, the stationary tests were conducted to find the stationarity of data. The Granger Causality tests were conducted to identify the causation of foreign tourist arrivals on foreign exchange earnings. After the confirmation of order of integration the co-integration test has been conducted. The Johanson test was used for co-integration. The Vector Error Correction (VCE) Models have been used to identify the short term disturbances in the long run relationship.

V .TRENDS IN ARRIVAL OF FOREIGN TOURISTS IN INDIA

Tourism is the largest service industry globally in terms of group revenue as well foreign exchange earnings. Trends in arrival of foreign tourists show the growing importance of this sector. Arrival of foreign tourists and the foreign exchange earned for the period 1991-2011are presented in table -1.

Table:1 Foreign tourist arrivals and Foreign exchange earnings during the years 1991-2012

Year	Foreign tourist arrivals	Foreign exchange earnings (in crore)
1991	1677508	4318
1992	1867651	5951
1993	1764830	6611
1994	1886433	7129
1995	2123683	8430
1996	2287860	10046
1997	2374094	10511
1998	2358629	12150
1999	2481928	12951
2000	2649378	15626
2001	2537282	15083
2002	2384364	15064
2003	2726214	20729
2004	3457477	27944
2005	3918610	33123
2006	4447167	39025
2007	5081504	44360
2008	5282603	51294

2009	5167699	53700
2010	5775692	64889
2011	6309222	77591
2012	6648318	94487

Source: Ministry of Tourism, Annual Report 2012-13.

VI. RESULTS AND DISCUSSION

Augmented Dickey-Fuller Test Statistics

The time series data for the period from 1991 to 2012 has been used for the analysis. Since the data is time series, the stationary tests were conducted to find the stationarity of data.

Table: 2 Augmented Dickey-Fuller test for level data

Variables	t-value			p-value		
	Level	First	Second	level	First	second
FTA	-1.505775	-2.833769	-5.526396	0.7929	0.2054	0.0017
FEE	-3. 137710	-1.964623	-5.761436	1.0000	0.5843	0.0010

From the Augmented Dickey-fuller test statistics it was observed that FTA and FEE variables were stationary at second difference from intercept and trend.

Causality between Foreign Tourist Arrivals and Contribution of Tourism Industry to Foreign Exchange Earnings

Table: 3 Pair wise Granger Causality Test

Null Hypothesis	Obs	F-Statistic	Probability
FEE does not Granger Cause FTA	20	1.69850	0.2163
FTA does not Granger Cause FEE		12.9871	0.0005

Pair wise Granger causality test identified no causality between foreign exchange earnings (FEE) and foreign tourist arrival (FTA) for which null hypothesis was not rejected. But the Granger causality test has identified the causation of FTA and FEE at lag 2. Therefore FTA Granger causes FEE at five percent level.

Cointegration of Foreign Tourist Arrivals and Contribution Tourism Industry to Foreign Exchange Earnings

Table: 4 Unrestricted cointegration rank test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	Critical Value	Prob**
None*	0.752729	33.26937	18.39771	0.0002
At most1*	0.234643	5.348253	3.841466	0.0207

Trace test indicates 2 cointegrating eqn(s) at the 0.05 level

*denotes rejection of the hypothesis at the 0.05 level

** Mackinnon- Haug-Michelis (1999) P- Value

Table: 5 Unrestricted cointegration rank test (Maximum Eigenvalue)

Hypothesized No.of CE(s)	Eigenvalue	Max-Eigen Statistic	Critical Value	Prob**
None	0.752429	27.92112	17.14769	0.0009
At Most 1*	0.234643	5.348253	3.841466	0.0207

Max-eigenvalue test indicates 2 Cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) P-values

The Johansen Cointegration test statistic shows rejection of null hypothesis of no Cointegrating vectors under Trace and Max-Eigenvalue forms of the test. In case of the trace test statistic the null of Cointegrating vector is rejected since the statistic of 33.26 is greater than 5% critical value 18.39. Moving on to test the null of 1 Cointegrating vector, the trace statistic is 5.34 while 5% critical value 3.84. So the null hypothesis is rejected at 5% level of significance.

Max-Eigen test Statistics the null of Cointegrating vector is rejected since the statistic 27.92 is greater than 5% critical value 17.14. Moving on to test the null of 1 Cointegrating vector, the trace statistics is 5.34 while 5% critical value 3.84. So the null hypothesis is rejected at the 5% level of significance.

It has been found from the cointegration test that foreign tourist arrival (FTA) and contribution of tourism industry to foreign exchange earnings (FEE) have long run relationship at five percent level.

Vector Error Correction Estimate for FTA and Contribution of Tourism Industry to FEE
The VEC has been used to find the short term disturbance in the long–run relationship and to identify the variable responsible for the relationship between FTA and FEE.

Table: 6 Vector Error Correction Estimates

Co integrating Eq:	CointEq1	
FTA(-1)	1.000000	
FEE(-1)	-96.39987 (4.13639) [-23.3053]	
C	-751771.5	
Error Correction	D(FTA)	D(FEE)
CoinEq1	-0.199935 (0.53805) (-0.37159)	-0.011015 (0.00356) (-3.09512)
C	261841.9 (330514.) (0.79223)	7261.930 (2186.09) (3.32188)
R-squared	0.430126	0.920896
Adj.R- squared	0.210944	0.890471
Sum sq. resids	7.40E+11	32375768
Akaike AIC	27.85501	17.81794
Schwarz SC	28.15325	18.11618
Mean dependent	257016.2	4625.053

From the VCE result presented above it was found that the short run disturbance in long-run relationship between FTA and FEE has been corrected in the short period. Both variables, FTA and FEE were identified as adjusting variables based on the negative sign of the variables. The value of error correction term (ETC) is –0.199935 which implies that 19% of the disequilibrium in the system gets corrected in one quarter. The coefficients of lagged variables are not significant implying that short run causality relationship does not exist among the study variables.

Accordingly, both FTA and FEE have been found responsible for error correction as well as upholding the long-run relationship. Hence short run errors are temporary and FTA and FEE have long run stable relationship.

VII. CONCLUSION

In this paper we have investigated the causal relationship between foreign tourist arrivals (FTA) and Foreign exchange earnings (FEE) in India using the annual data for the period 1991 to 2012. Various time series econometric techniques such as unit root test, co integration and causality, and VEC model were used to establish the relationship. The result shows that

there is only one-way causal relationship from FTA to FEE, which means FTA has a causal effect on the FEE in Indian tourism industry.

REFERENCES

1. Drisakis, Nikolas (2004). Tourism as a Long Run Economic Growth Factor: An Empirical Investigation for Greece Tourism Economics, Vol 10, Pp 305-316.

2. Ivano Stanislav and Webster (2006). Measuring the Impact of Tourism on Economic Growth, Pp 21-30.

3. Karthik S.K (2012). Role of Tourism Industry in Economics Development of India. *International Journal of Management and Business Affairs,* Vol.2, Pp 44-51.

4. WWW.Ministry of Indian Tourism.Com

5. www.wttc.org

6. www.Indiastats.com