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# Empirics of Tourism-Led Growth in India, 1995 to 2016

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**Abstract**:

In the globalized world, the travel and tourism have been considered crucial for achieving inclusive growth, especially in less developed economies. It has been increasingly recognised as a good contributor to national income and employment. So it can be used an instrument for achieving a higher rate of economic growth of a country in the long-run. In this line of argument, this paper examined the causal relationship between tourism and economic growth in the context of Indian States/UTs in a panel data framework. The empirical findings support the tourism-led growth hypothesis in the long-run and growth-led tourism hypothesis in the short-run. Thus, the policy choice is to make the tourism instrumental, through its promotional strategies, for the inclusive and sustainable development of India.

**Keywords:** tourism; economic growth; panel estimation; India.

**JEL Classification**: L83; Z32; Z39.

## Introduction

In recent decades, it has been the consensus among the academician, researchers and policy makers that the smokeless industry, tourism has been strengthened to a great extent to generate positive contributions to the socio-economic, cultural and political development of a nation, and also the sector has been applauded to create strong bonds of harmonious international and inter-regional relationships for peace and prosperity (Richardson 2010; Gill and Singh 2011; Gill and Singh 2013; Rout *et al*. 2016a; Mishra and Verma 2017; Mishra *et al*. 2018; Sharma 2018). The development of tourism has usually been considered a positive contribution to economic growth (Mishra *et al*. 2016; Rout *et al*. 2016b; Rout *et al*. 2016c). The growth of tourism leads to an increase in household income and government revenues through multiplier effects, improvements in the balance of payments and growth in the number of tourism-promoted government policies (Khan *et al*. 1995; Lee and Kwon 1995; Lim 1987; Oh 2005; Vita and Kyaw 2016; Kaur and Kansra 2018).

Furthermore, tourism promotes economic growth by stimulating investment and production in the economy (Gimeno 1988; Ayres 2000; Oh 2005; Belloumi 2010); increasing competitive efficiency of local firms (Balaguer and Contavella-Jorda 2002); reducing unemployment (Brida and Pulina 2010); earning foreign exchange for financing the import of capital goods (Mckinnan 1964); reducing cost of production of local business entrepreneurs (Andrioties 2002; Croes 2006); attracting foreign direct investment (Soukiazis amd Proença 2008; Cortés-Jiménez 2008); promoting women's participation in the labour market and enabling society's most vulnerable groups to take part in the production of goods and services (Ayres, 2000; Brau *et al*. 2003; Sequeira and Campos 2005; Croes and Vanegas 2008); and lastly by promoting social cohesion and lowering social tension (Llorca-Rodríguez *et al*. 2016).

Thus, tourism has been looked upon as one of the economic sectors best able to address the issues of spreading the benefits of inclusive and sustainable growth by creating jobs and raising living standards of poor people (Ashley 2007; Mishra *et al.* 2011; Pleumarom 2012; Mishra and Rout 2012-13; Munshi and Mishra 2016). Therefore, travel and tourism have been well considered as a significant service sector which can be regarded as a major source of economic growth and development.

## 1. Literature Review

Keeping in view the positive impacts of tourism on economic growth, many researchers have investigated the dynamics of the relationship between tourism sector development and economic growth. Knowledge of this relationship is of particular importance to policy makers as tourism policies are becoming major concerns for less developed countries. The tourism literature interprets this causal link in four ways: *tourism-led growth hypothesis* which holds that growth of tourism leads to economic growth; *growth-led tourism hypothesis* which presumes that economic growth leads to the development of tourism; *feedback hypothesis* which believes on a bidirectional causal relationship between tourism and economic growth; and *neutrality hypothesis* which predicts no causal relationship between tourism and economic growth. These hypotheses have been tested empirically both in the context of a specific country, or in multi-country cases.

For example, Balaguer and Cantavella-Jorda (2002) for Spain; Tosun (1999), Gunduz and Hatemi (2005) and Zortuk (2009) for Turkey; Durbarry (2002) for Mauritius; Dritsakis (2004) for Greece; Oh (2005) for Korea; Wickremasinghe and Ihalanayake (2006) for Sri Lanka; Chen and Chiou-Wei (2009) for Taiwan; Kreishan (2010) and Aliqah and Al-rfou' (2010) for Jordan; Mishra *et al.* (2011), Ohlan (2017) and Sharma (2018) for India; Surugiu and Surugiu (2013) for Romania; Eeckels *et al.* (2012) for Greece; Tang and Tan (2015) for Malaysia; Eugenio-Martin *et al.* (2004) for low-income Latin American Countries; Lee and Chang (2008) for OECD Nations; Lanza *et* al. (2003) for 13 OECD Countries; Skerritt and Huybers (2005) for 37 developing countries; Fayissa *et al.* (2007) for 42 Sub-Saharan African countries; Fayissa *et al.* (2009) for 17 Latin American countries; Chou (2013) for Cyprus, Latvia and Slovakia out of 10 transition countries; Narayan *et al*. (2013) for Pacific Island countries Seghir *et al*. (2015) for 49 selected countries; Kum *et al.* (2015) for N-11 countries; Dritsakis (2012), Demirhan (2016) for Mediterranean countries and Shakouri *et al*. (2017) for Iran found the evidence in favour of the *tourism-led growth hypothesis*. In these studies, tourism sector development has been observed to promote the macroeconomic growth of countries.

Similarly, Khalil *et al.* (2007) for Pakistan; Chou (2013) for Czech Republic and Poland out of 10 transition countries, and Phouphet (2018) for Laos found the evidence in favour of *growth-led tourism hypothesis*. Certain studies also document the evidence in favour of *feedback hypothesis*, *e.g*., Kim *et al.* (2006) for Taiwan; Chen and Chiou-Wei (2009) for South Korea; Lee and Chang (2008) for non-OECD countries; Seetanah (2011) for Island economies; and Chou (2013) for Estonia and Hungary out of 10 transition countries. Contrary to this, Tang and Jang (2009) for United States; Katircioglu (2009) for Turkey; Chou (2013) for Bulgaria, Romania and Slovenia out of 10 transition countries; and Du *et al.* (2016) for 109 countries observed that investment in tourism is an insufficient determinant of economic growth which favours *neutrality hypothesis*. Cardenas-Garcia *et al.* (2015), in a sample of 144 countries, found the evidence of tourism-led growth hypothesis in case of developed countries and not in the least developed and/or developing countries.

Regardless of numerous studies that have been conducted over time and space to examine the nexus between tourism and economic growth, the issue still remains controversial. Recent literature suggests that, the stability of tourism and economic growth relationship changes over time (Lean and Tang 2010; Arslanturk *et al*. 2011; Antonakakis *et al*. 2014). Chiu and Yeh (2016) contended that countries with different conditions of tourism development experience various impacts on the tourism-growth nexus. In spite of such findings, tourism is considered not only important at global and national levels, but equally important for its growth-enhancing role in small states or provinces of a nation. And, the case of India is no exception. Therefore, the very objective of this piece of research work is to examine the dynamics of the relationship between tourism sector development and economic growth in India.

## 2. Indian Tourism Industry

India is a nation having heterogeneous economic conditions and socio-cultural backgrounds across her States/UTs; still the tourism sector is considered strategic for the socio-economic development of her States/UTs. As per an estimate by the Planning Commission (currently NITI Aayog), for every million rupees invested in the tourism sector, 89 jobs are created against 45 jobs in the primary sector and 13 jobs in the secondary sector. The ratio of indirect jobs to direct jobs in the tourism sector is approximately 3:1 (Das 2013). In India, the tourism helps to generate about 5 million jobs every year (Sahu 2013; Batta 2000); gives local handicrafts business turnover of INR 10 billion a year (Sahu 2013; Suba and Selvachantra 2014); the total income from this smokeless industry is around INR 200 billion (Sahu 2013; Suba and Selvachantra 2014); and the regions like Aurangabad in Maharashtra, Khajuraho in Madhya Pradesh, Jammu and Kashmir, and Raghurajpur in Odisha have emerged with the help of tourism only (Mishra and Rout 2012).

As per the estimations by the Bureau of Immigration, Government of India, the foreign tourist arrivals in India in 2017 was 10.04 million (14% increase over the last year) and between Jan-June 2018, it was 5.16 million. The shares of India in

international tourist arrivals in world and Asia and the Pacific region in 2017 were 1.17% (1323 million) and 4.81% (323.2 million) respectively. In respect to this, India has 16th rank in the World and 7th in the Asia and the Pacific region in 2017. The top 5 source countries for foreign tourist arrivals in India in 2017 are Bangladesh (21.49%), United Nations (13.72%), United Kingdom (9.83%), Canada (3.34%) and Australia (3.23%). As per the estimations by the Ministry of Tourism, Government of India, the foreign exchange earnings from tourism in India in 2017 was US$ 27.310 billion and between Jan-June 2018, it was US$ 14.625 billion. All these signify the importance of India's tourism potential to influence the macroeconomic growth of the country.

Not only foreign tourist arrivals, but the potential of domestic tourist visits across Indian States are also significant in bringing out positive impacts on the growth of tourism sector and the country as a whole. As per the compilations of the Ministry of Tourism, Government of India, 1,652.49 million domestic tourist arrivals took place in India in 2017 which is about 2.3% increase over the previous year. The top 5 States which contributed to such a growth in domestic tourism are Tamil Nadu (20.9%), Uttar Pradesh (14.2%), Karnataka (10.9%), Andhra Pradesh (10.0%) and Maharashtra (7.2%). India, because of its rich social traditions, cultural heritage, spiritual footprints, colorful fairs & festivals, and natural beauties offer a wide range of tourism products including heritage tourism, spiritual tourism, eco-tourism, adventure tourism, science tourism, rural tourism, agri-tourism and medical tourism which attract tourist's arrivals both from within and outside the country.

Table 1. Domestic Tourist Arrivals to Indian States/UTs, 2012 to 2016

| Indian States/UTs | 2012 | 2013 | 2014 | 2015 | 2016 |
|---|---|---|---|---|---|
| Andaman & Nicobar Islands | 238,699 | 243,703 | 285,146 | 296,684 | 384,552 |
| Arunachal Pradesh | 132,243 | 125,461 | 180,964 | 352,067 | 385,875 |
| Assam | 4,511,407 | 4,684,527 | 4,826,702 | 5,491,845 | 5,160,599 |
| Chandigarh | 924,589 | 936,922 | 1,061,419 | 1,073,842 | 1,182,504 |
| Delhi | 18,495,139 | 20,215,187 | 22,626,859 | 25,258,051 | 28,460,832 |
| Goa | 2,337,499 | 2,629,151 | 3,544,634 | 4,756,422 | 5,650,061 |
| Gujarat | 24,379,023 | 27,412,517 | 30,912,043 | 36,288,463 | 42,252,909 |
| Haryana | 6,799,242 | 7,128,027 | 13,442,944 | 7,395,496 | 7,382,995 |
| Himachal Pradesh | 15,646,048 | 14,715,586 | 15,924,701 | 17,125,045 | 17,997,750 |
| Jammu & Kashmir | 12,427,122 | 13,642,402 | 9,438,544 | 9,145,016 | 9,414,579 |
| Karnataka | 94,052,729 | 98,010,140 | 118,283,220 | 119,863,942 | 129,762,600 |
| Kerala | 10,076,854 | 10,857,811 | 11,695,411 | 12,465,571 | 13,172,536 |
| Maharashtra | 74,816,051 | 82,700,556 | 94,127,124 | 103,403,934 | 116,515,801 |
| Manipur | 134,541 | 140,673 | 115,499 | 146,169 | 150,638 |
| Meghalaya | 680,254 | 691,269 | 716,469 | 751,165 | 830,887 |
| Nagaland | 35,915 | 35,638 | 58,413 | 64,616 | 58,178 |
| Odisha | 9,052,871 | 9,800,135 | 10,790,622 | 11,786,117 | 12,842,766 |
| Puducherry | 981,714 | 1,000,277 | 1,188,093 | 1,297,192 | 1,398,289 |
| Punjab | 19,056,143 | 21,340,888 | 24,271,302 | 25,796,361 | 38,703,326 |
| Rajasthan | 28,611,831 | 30,298,150 | 33,076,491 | 35,187,573 | 41,495,115 |
| Sikkim | 558,538 | 576,749 | 562,418 | 705,023 | 747,343 |
| Tamil Nadu | 184,136,840 | 244,232,487 | 327,555,233 | 333,459,047 | 343,812,413 |
| Tripura | 361,786 | 359,586 | 361,247 | 363,172 | 370,618 |
| West Bengal | 22,730,205 | 25,547,300 | 49,029,590 | 70,193,450 | 74,460,250 |

*Source: Tourism Statistics, Ministry of Tourism, Government of India*

The Table 1 presents the number of domestic tourist arrivals to the mentioned 24 States/UTs of India from 2012 to 2016. It is revealed that the domestic tourist arrivals to the various States of India have increased in past years. Similarly, Table 2 depicts the number of foreign tourist arrivals to the different States of India. The number of foreign tourist arrivals has also been increased in most of the States. This increase in tourist arrivals is always positively interpreted by the researchers when the contributions to the socio-economic development are concerned. In view of this importance of tourism in India and for her States, it is highly imperative to examine the nexus between tourism and economic growth.

When we reviewed the tourism literature, we found only a single study, *i.e.*, Mallick *et al*. (2016) which has addressed this issue in the context of the Indian States. Mallick *et al*. examined the issue in the context of 23 selected Indian States during 1997 to 2011 using panel ARDL model and found the evidence in favour of the statistically significant relationship between tourism and economic growth in the long-run, but not in the short-run. However, given the presence of unavoidable heterogeneous socio-economic, infrastructural, cultural, and political conditions of Indian States, the tourism-growth nexus can better be captured through the Pedroni (1999, 2000, 2004) panel cointegration estimation, and the estimation of panel vector error correction model as suggested by Engle and Granger (1987). This panel causality method can control for dependency and State-specific characteristics across the Indian States.

Table 2. Foreign Tourist Arrivals to Indian States/UTs, 2012 to 2016

| Indian States/UTs | 2012 | 2013 | 2014 | 2015 | 2016 |
|---|---|---|---|---|---|
| Andaman & Nicobar Islands | 17,538 | 14,742 | 17,235 | 14,674 | 15,466 |
| Arunachal Pradesh | 5,135 | 10,846 | 5,204 | 5,705 | 6,598 |
| Assam | 17,543 | 17,638 | 21,537 | 24,720 | 12,685 |
| Chandigarh | 34,130 | 40,124 | 28,365 | 29,538 | 31,549 |
| Delhi | 2,345,980 | 2,301,395 | 2,319,046 | 2,379,169 | 2,520,083 |
| Goa | 450,530 | 492,322 | 513,592 | 541,480 | 680,683 |
| Gujarat | 174,150 | 198,773 | 235,524 | 284,973 | 343,752 |
| Haryana | 233,002 | 228,200 | 547,367 | 303,118 | 331,291 |
| Himachal Pradesh | 500,284 | 414,249 | 389,699 | 406,108 | 452,770 |
| Jammu & Kashmir | 78,802 | 60,845 | 86,477 | 58,568 | 63,207 |
| Karnataka | 595,359 | 636,378 | 561,870 | 636,502 | 461,752 |
| Kerala | 793,696 | 858,143 | 923,366 | 977,479 | 1,038,419 |
| Maharashtra | 2,651,889 | 4,156,343 | 4,389,098 | 4,408,916 | 4,670,049 |
| Manipur | 749 | 1,908 | 2,769 | 3,260 | 3,064 |
| Meghalaya | 5,313 | 6,773 | 8,664 | 8,027 | 8,476 |
| Nagaland | 2,489 | 3,304 | 3,679 | 2,769 | 3,260 |
| Odisha | 64,719 | 66,675 | 71,426 | 66,971 | 76,361 |
| Puducherry | 52,931 | 42,624 | 83,291 | 106,153 | 117,437 |
| Punjab | 143,805 | 204,074 | 255,449 | 242,367 | 659,736 |
| Rajasthan | 1,451,370 | 1,437,162 | 1,525,574 | 1,475,311 | 1,513,729 |
| Sikkim | 26,489 | 31,698 | 49,175 | 38,479 | 66,012 |
| Tamil Nadu | 3,561,740 | 3,990,490 | 4,657,630 | 4,684,707 | 4,721,978 |
| Tripura | 7,840 | 11,853 | 26,688 | 34,886 | 36,780 |
| West Bengal | 1,219,610 | 1,245,230 | 1,375,740 | 1,489,500 | 1,528,700 |

*Source: Tourism Statistics, Ministry of Tourism, Government of India*

Therefore, in an attempt to make the methodological improvement, this paper aims to re-examine the dynamics of the relationship between tourism and economic growth in India in a balanced panel framework of 24 States/UTs during 1995 to 2016one.

## 3. Data and Methodology

The objective of this study is to investigate the dynamic nexus between tourism and economic growth in India in a balanced panel framework of 24 States/UTs over the sample period spanning from 1995 to 2016. Thus, depending on whether tourism leads to economic growth or the other way around, we suggest the following theoretical model to be estimated in a panel framework: $EG = f\left(DTA, FTA\right)$ where EG stands for real economic growth measured by Gross State Domestic Product at 2004-05 prices; DTA stands for the number of domestic tourist arrivals to States/UTs; and FTA is the number of foreign tourist arrivals in States/UTs. Assuming the log-linear relationship between these variables, the estimated form of this model is:

$$\ln(EG)_{it} = \alpha_i + \beta_{1i} \ln(DTA)_{it} + \beta_{2i} \ln(FTA)_{it} + \varepsilon_{it}$$

Here, $i$ is the State/UT of India and $t$ is the time period. If tourism sector development is hypothesized to contribute to economic growth, then the expected signs of the coefficients $\beta_{1i}$ and $\beta_{2i}$ are positive. The parameter $\alpha_i$ depicts the State/UT specific fixed effects, and $\varepsilon_{it}$ denotes the estimated residuals which represent the deviations from the long-run relationship. This model was estimated using a balanced panel dataset of 24 States/UTs of India, *i.e*., Andaman and Nicober Islands, Arunachal Pradesh, Assam, Chandigarh, Delhi, Goa, Gujarat, Haryana, Himachal Pradesh, Jammu and Kashmir, Karnataka, Kerala, Maharashtra, Manipur, Meghalaya, Nagaland, Odisha, Puducherry, Punjab, Rajasthan, Sikkim, Tamil Nadu, Tripura and West Bengal over the from 1995 to 2016. All required data were collected from the India tourism statistics published by Ministry of Tourism, Govt. of India, and CMIE. In order to reduce the heterogeneity of the data among the selected States/UTs, we expressed the variables in their natural logarithms. Thus, the variables become ln(EG), ln(DTA) and ln(FTA). The estimation of the model has been performed in four steps.

*Step-I: Panel Unit Root Test*: In this step, we have used Levin *et al.* (2002), Im *et al.* (2003), ADF-Fisher, and PP-Fisher (Maddala and Wu 1999; Choi 2001) unit root tests to see the stationary properties of the underlying time series with the null hypothesis of non-stationarity of the variable.

*Step-II: Panel Cointegration Test*: In this step we have examined the long-run equilibrium relationship between variables using panel cointegration tests as proposed by Pedroni (1999, 2004) and Kao (1999) with the null hypothesis of no cointegration.

*Step-III: Panel Granger Causality Test*: In this step, we have used panel Granger causality test following the two-step Engle-Granger causality procedure (Engle and Granger 1987) with the following dynamic vector error correction model specification.

$$\Delta Ln(GSDP)_{it} = \phi_{1i} + \lambda_{1i} ECT_{it-1} + \sum_{j=1}^{p} \gamma_{11ij} \Delta Ln(EG)_{it-j} + \sum_{j=1}^{p} \gamma_{12ij} \Delta Ln(DTA)_{it-j} + \sum_{j=1}^{p} \gamma_{13ij} \Delta Ln(FTA)_{it-j} + \varepsilon_{1it} \quad (3.1)$$

$$\Delta Ln(DTA)_{it} = \phi_{2i} + \lambda_{2i} ECT_{it-1} + \sum_{j=1}^{p} \gamma_{21ij} \Delta Ln(EG)_{it-j} + \sum_{j=1}^{p} \gamma_{22ij} \Delta Ln(DTA)_{it-j} + \sum_{j=1}^{p} \gamma_{23ij} \Delta Ln(FTA)_{it-j} + \varepsilon_{2it} \quad (3.2)$$

$$\Delta Ln(FTA)_{it} = \phi_{3i} + \lambda_{3i} ECT_{it-1} + \sum_{j=1}^{p} \gamma_{31ij} \Delta Ln(EG)_{it-j} + \sum_{j=1}^{p} \gamma_{32ij} \Delta Ln(DTA)_{it-j} + \sum_{j=1}^{p} \gamma_{33ij} \Delta Ln(FTA)_{it-j} + \varepsilon_{3it} \quad (3.3)$$

The estimation method widely applied in comparable studies in different fields of research (Bashiri and Pires 2012; Costantini and Martini 2010; Jaunky 2012a,b) is the Generalized Method of Moments (GMM) proposed by Arellano and Bond (1991), Arellano and Bover (1995) and Blundell and Bond (1998). Based on these three equations, short-run causality is determined by the statistical significance of the partial F-statistics associated with the corresponding right hand side variables, and the long-run causality is revealed by the statistical significance of the respective error correction terms using a t-test. In line with the literature, these causalities are studied by means of a Wald test. Considering the first equation, the short-run Granger causality test assesses the validity of the null hypothesis $H_0 : \gamma_{12ij} = 0$ and $H_0 : \gamma_{13ij} = 0$ for all *i* and *j*. The long-run Granger causality test checks for the significance of the *ECT* coefficient, and in this case the null hypothesis is $H_0 : \lambda_{1i} = 0$ for all *i*.

*Step-IV: Panel Cointegration Estimation*: The existence of long-run cointegrating and causal relationships between variables, however, does not speak about the long-run dynamics between them. So, we have used FMOLS and DOLS methods of estimating the long-run elasticities in heterogeneous cointegrated panel (Pedroni, 2000, 2001a, 2001b). Kao and Chiang (2000) pointed out that FMOLS estimator often exhibits small sample bias while DOLS estimator appears to outperform it. Furthermore, these two methods allow on the null hypothesis to test if there is a strong relationship between tourism and economic growth for the selected States/UTs of India.

## 4. Empirical Findings

The results of unit root tests to observe the stationary properties of the underlying variables are presented in Table 3 which infers that the series are all non-stationary in their levels, but stationary in their first differences. So all variables are I(1). Since the variables are I(1), we performed the panel cointegration test to understand the dynamics of the long-run equilibrium relationship between them and the results are presented in Table 4.

Table 3. Results of Panel Unit Root Tests

| Method: computation with individual effects | Ln(EG) | Ln(DTA) | Ln(FTA) |
|---|---|---|---|
| LLC Unit Root Test: $H_0$: Unit Root/Non-Stationarity | | | |
| Level Form | 0.9 (0.8) | 0.8 (0.815) | -0.9 (0.1) |
| First Difference Form | -3.2 (0.0006)* | -10.4 (0.000)* | -9.184 (0.000)* |
| IPS Unit Root Test: $H_0$: Unit Root/Non-Stationarity | | | |
| Level Form | 7.0 (1.000) | 4.0 (1.000) | 2.7 (0.997) |
| First Difference Form | -5.3 (0.000)* | -8.4 (0.000)* | -9.9 (0.000)* |
| ADF-Fisher Chi-Square Unit Root Test: $H_0$: Unit Root/Non-Stationarity | | | |
| Level Form | 8.8 (1.000) | 22.6 (0.999) | 26.9 (0.994) |
| First Difference Form | 117.4 (0.000)* | 164.7 (0.000)* | 191.4 (0.000)* |
| PP-Fisher Chi-Square Unit Root Test: $H_0$: Unit Root/Non-Stationarity | | | |
| Level Form | 11.0 (1.000) | 24.4 (0.998) | 33.7(0.940) |
| First Difference Form | 216.2 (0.000)* | 780.8 (0.000)* | 525.6 (0.000)* |

*Note: Values within parentheses are p-values; * rejection of null hypothesis at 1% level of significance;*
*Source: Authors' Own Estimation*

The upper portion of Table 4 shows the results of Pedroni (2004) cointegration tests whereas the lower portion reports that of Kao (1999) test. The results of both the tests indicate the existence of a long-run equilibrium relationship between tourism sector development and real economic growth of India. However, this relationship does not indicate the causal directions which the relationship flows from one to another.

Table 4. Results of Panel Cointegration Tests

| Pedroni (1999, 2004) Residual Cointegration Tests [Ln(GDP) as Dependent Variable] | | |
|---|---|---|
| Method | With Individual Intercept | With Individual Intercept and Individual Trend |
| **Within Dimension**<br>**Pedroni (1999) Statistic** | | |
| Panel v-Statistic | 0.1 (0.451) | 35.4 (0.000) * |
| Panel rho-Statistic | -1.4 (0.074) * | 0.5 (0.697) |
| Panel PP-Statistic | -4.1 (0.000) * | -4.3(0.000) * |
| Panel ADF-Statistic | -4.4 (0.000) * | -5. 8 (0.000) * |
| **Within Dimension**<br>**Pedroni (2004) weighted Statistic** | | |
| Panel v-Statistic | 0.2(0.394) | 27.2 (0.000) * |
| Panel rho-Statistic | -0.7 (0.214) | 0.7 (0.786) |
| Panel PP-Statistic | -3.1 (0.0008) * | -2.6 (0.004) * |
| Panel ADF-Statistic | -3.8 (0.0001) * | -4.6 (0.000) * |
| Between Dimension | | |
| Group rho-Statistic | 1.01 (0.843) | 2.5 (0.994) |
| Group PP-Statistic | -2.5 (0.006) * | -1.7 (0.036) * |
| Group ADF-Statistic | -3.7 (0.0001) * | -5.04 (0.000) * |
| **Kao (1999) Residual Cointegration Test** [Ln(GDP) as Dependent Variable] | | |
| ADF t-Statistic | -3.3(0.0005) * | |
| *Note: Out of the seven tests, the panel v-Statistic is one-sided test where large positive values reject the null hypothesis of no cointegration whereas large negative values for the remaining test statistics reject the null hypothesis of no cointegration. The values in the parentheses are p-values.* | | |

*Source: Authors' Own Estimation*

For this purpose, the panel Granger causality test in a vector error correction framework using Engle and Granger procedure was performed and the results are reported in Table 5. The results clearly provide the evidence of long-run causality running from domestic tourist visits and foreign tourist visits to economic growth. In other words, there is the evidence of long-run causality from tourism to economic growth in India. This lends to support the *tourism-led growth hypothesis* in India. But there is no evidence in favour of short-run causality from tourism to economic growth. However, there is evidence that economic growth causes domestic as well as foreign tourist arrivals in the country in the short-run only. In other words, *growth-led tourism hypothesis* holds only in the short-run.

Table 5. Results of Panel Granger Causality Test

| Dependent Variable | Short-Run Causality (F-Statistic) | | | Long-Run Causality(t-statistic) |
|---|---|---|---|---|
| | ΔLn(EG) | ΔLn(DTA) | ΔLn(FTA) | ECT |
| ΔLn(EG) | - | 0.94 (0.39) | 1.65 (0.19) | -1.67 (0.09)*** |
| ΔLn(DTA) | 9.79 (0.0001)* | - | 1.2 (0.30) | -0.87 (0.38) |
| ΔLn(FTA) | 6.21 (0.002)* | 0.25 (0.78) | - | -1.00 (0.31) |

# values in the parentheses are p-values of respective test statistic
* significant at 1% level; *** significant at 10% level
*Source: Authors' Own Estimation*

Since the existence of long-run cointegrating and causal relationships does not speak anything about the long-run dynamics between the variables, we have used panel FMOLS and DOLS methods of estimating the long-run elasticities of the impact of tourism sector on the economic growth. The results of panel FMOLS and DOLS estimations are reported in Table 6. The results indicate the rejection of the null hypothesis at 1% level of significance. It means, the estimated coefficients of the two variables are positive and statistically significant. This shows that there exists a positive long-run relationship between tourism sector development and economic growth in Indian States/UTs.

It is evident from FMOLS estimation that 10% increase in domestic tourist arrivals in Indian States/UTs increases economic growth (in terms of increase in real GSDP) by 7.1% in the long-run. Similarly, 10% increase in foreign tourist visits to Indian States/UTs increases economic growth by 1.2% in the long-run. Similarly, the DOLS estimators provide the evidence of positive and significant relationship between tourism sector development and economic growth in Indian States/UTs in the long-run. Specifically, 10% increase in domestic tourist arrivals in Indian States/UTs increases economic growth by 1.7% in the long-run.

Table 6: Results of Panel FMOLS & DOLS Long-Run Estimates

| Variable | Coefficient | t-Statistic (p-value) | R-squared | Adj. R-squared |
|---|---|---|---|---|
| **FMOLS Estimates [**Ln(EG) as Dependent Variable**]** | | | | |
| Panel Method: Weighted Estimation | | Null Hypothesis: Slope Coefficient is Zero | | |
| Ln(DTA) | 0.71 | 60.3 (0.000)* | 0.87 | 0.87 |
| Ln(FTA) | 0.12 | 8.2 (0.000)* | | |
| **DOLS Estimates [**Ln(EG) as Dependent Variable**]** | | | | |
| Panel Method: Weighted Estimation | | Null Hypothesis: Slope Coefficient is Zero | | |
| Ln(DTA) | 0.17 | 3.9 (0.0001)* | 0.98 | 0.97 |
| Ln(FTA) | 0.23 | 5.8 (0.000)* | | |

*Source: Authors' Own Estimation*

Similarly, 10% increase in foreign tourist visits to Indian States/UTs increases economic growth by 2.3% in the long-run. Overall, it is observed that there is a strong positive long-run relationship between tourism sector development and real economic growth in Indian States/UTs.

## Conclusion

In these days, tourism has become the catalyst of job creation, income and revenue generations, foreign exchange earnings and infrastructure development in many countries, and India is no exception. Thus, it is rightly hypothesized that the growth of the tourism sector can lead to the overall economic growth of a country, the well-known tourism-led growth hypothesis. This paper empirically investigated the validity of this hypothesis in the context of India. It is found that this hypothesis holds good in the country only in the long-run, but not in the short-run. This finding corroborates to the findings of Mallick *et al*. (2016). In the short-run, our results support the growth-led tourism hypothesis. The policy implication of the long-run finding is that the travel and tourism industry in India can be mobilized as a key economic sector to achieve higher levels of long-run economic growth. The short-run finding implies that the economic growth can stimulate tourism demand and lead to the growth of tourism activities in the country which in turn would accumulate them to contribute to long-run economic growth of Indian States/UTs. Therefore, the policy circle should focus on the promotion of tourism for long-run growth of India. In this context, the introduction of innovative tourism products, development of tourist destinations, development of supporting infrastructure including travel, accommodation, etc. along with the guarantee of safety and security of tourists at destinations can be recommended. In this direction, the Central and State governments are required to play a pivotal role. In addition, the public-private partnership model also can be implemented. However, this study is delimited by the non-inclusion of other key indicators of the growth of tourism such as the number of employment created due to tourism, volumes of foreign exchange earnings from tourism, etc. in India States/UTs. Also, it does not take into consideration various socio-economic characteristics of Indian States/UTs that influence tourism's contribution to economic growth, and it does not cover all the States/UTs of India. In all these respects the present study can further be extended to enlighten the policy circle.

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## References

[1] Aliqah, K.M.A. and N.A. Al-rfou. 2010. The Role of Tourism Sector on Economic Development in Jordan during the Period 1990-2008, *European Journal of Economics, Finance and Administrative Sciences,* 18: 173-180

[2] Andrioties, K. 2002. Scale of Hospitality Firms and Local Economic Development – Evidence from Crete, *Tourism Management*, 23(4): 333-341. DOI: https://doi.org/10.1016/S0261-5177(01)00094-2

[3] Antonakakis, N. and Badinger, H. 2014. International business cycle spillovers since the 1870s, *Applied Economics,* 46: 3682-3694. DOI: https://doi.org/10.1080/00036846.2014.937040

[4] Arellano, M., and Bond, S. 1991. Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations, *Review of Economic Studies*, 58: 277–97. DOI: https://doi.org/10.2307/2297968

[5] Arellano, M., and Bover, O. 1995. Another look at the instrumental variables estimation of error components models, *Journal of Econometrics*, 68: 29–51. DOI: https://doi.org/10.1016/0304-4076(94)01642-D

[6] Arslanturk, Y., Balcilar, M., and Özdemir, Z.A. 2011. Time-varying linkages between tourism receipts and economic growth in a small open economy, *Economic Modelling,* 28: 664-671. DOI: https://doi.org/10.1016/j.econmod.2010.06.003

[7] Ashley, C., P.D. Brine, A. Lehr, and H. Wilde. 2007. The Role of the Tourism Sector in Expanding Economic Opportunity, *Corporate Social Responsibility Initiative Report No.23*. Cambridge, M.A: Kennedy School of Government, Harvard University. Available at: https://sites.hks.harvard.edu/m-rcbg/CSRI/publications/report_23_EO%20Tourism%20Final.pdf

[8] Ayres, R. 2000. Tourism as a Passport to Development in Small States: Reflections on Cyprus, *International Journal of Social Economics*, 27(2):114–133 DOI: https://doi.org/10.1108/03068290010308992

[9] Balaguer, L. and Cantavella-Jorda, M. 2002. Tourism as a Long-Run Economic Growth Factor: The Spanish case, *Applied Economics*, 34(7): 877-884. DOI: https://doi.org/10.1080/00036840110058923

[10] Bashiri Behmiri, N., and Pires Manso, J.R. 2012. Crude oil conservation policy hypothesis in OECD (organisation for economic cooperation and development) countries: A multivariate panel Granger causality test. *Energy*, 43: 253-260. DOI: https://doi.org/10.1016/j.energy.2012.04.032

[11] Batta, R.N. 2000. *Tourism and the Environment: A Quest for Sustainability: With Special Reference to Developing Countries and Policy Analysis on Himachal Pradesh.* New Delhi: Indus Publishing Company. Available at: https://books.google.co.in/books/about/Tourism_and_the_Environment.html?id=V85-AAAAMAAJ&redir_esc=y

[12] Belloumi, M. 2010. The relationship between tourism receipts, real effective exchange rate and economic growth in Tunisia, *International Journal of Tourism Research*, 12(5): 550–560. DOI: https://doi.org/10.1002/jtr.774

[13] Blundell, R., and Bond, S. 1998. Initial conditions and moment restrictions in dynamic panel data models, *Journal of Econometrics*, 87: 11–143. DOI: https://doi.org/10.1016/S0304-4076(98)00009-8

[14] Brau, R., A. Lanza, and Pigliaru, F. 2003. How fasts are the Tourism Countries Growing? The Cross-Country Evidence, *Working Paper No.03-09*, Centro Ricerche Economiche Nord Sud (Centre for North South Economic Research). Available at: http://www.crenos.it/working/pdf/03-09.pdf

[15] Brida, J. and Pulina, M. 2010. A literature review on the tourism-led-growth hypothesis, *Working Paper CRENoS 201017*, Centre for North South Economic Research, Sardinia. Available at: http://crenos.unica.it/crenos/sites/default/files/WP10-17.pdf

[16] Cardenas-Garcia, P.J., M. Sanchez-Rivero and J.I. Pulido-Fernandez. 2015. Does Tourism Growth Influence Economic Development?. *Journal of Travel Research*, 54(2): 206-221. DOI: https://doi.org/10.1177/0047287513514297

[17] Chen, C.-F., and Chiou-Wei, S.Z. 2009. Tourism expansion, tourism uncertainty and economic growth: new evidence from Taiwan and Korea, *Tourism Management*, 30(6): 812–818. DOI: https://doi.org/10.1016/j.tourman.2008.12.013

[18] Chiu, Y., and Yeh, L. 2016. The Threshold effects of the Tourism-Led Growth Hypothesis: Evidence from a Cross-Sectional Model, *Journal of Travel Research* Published online June 10. DOI: https://doi.org/10.1177/0047287516650938

[19] Choi, I. 2001. Unit Root Tests for Panel Data, *Journal of International Money and Finance*, 20(2): 249–272. DOI: https://doi.org/10.1016/S0261-5606(00)00048-6

[20] Chou, M. C. 2013. Does tourism development promote economic growth in transition countries? A panel data analysis, *Economic Modelling*, 33: 226–232. DOI: https://doi.org/10.1016/j.econmod.2013.04.024

[21] Cortés-Jiménez, I. 2008. Which type of tourism matters to the regional economic growth? The cases of Spain and Italy, *International Journal of Tourism Research*, 10(2): 127–139. DOI: https://doi.org/10.1002/jtr.646

[22] Costantini, V., and Martini, C. 2010. The causality between energy consumption and economic growth: A multi-sectoral analysis using non-stationary cointegrated panel data, *Energy Economics*, 32: 591-603. DOI: https://doi.org/10.1016/j.eneco.2009.09.013

[23] Croes, R. R. 2006. A paradigm shift to a new strategy for small island economies: embracing demand side economics for value enhancement and long term economic stability, *Tourism Management*, 27(3): 453-465. DOI: https://doi.org/10.1016/j.tourman.2004.12.003

[24] Croes, R., and Vanegas, M. 2008. Cointegration and causality between tourism and poverty reduction, *Journal of Travel Research*, 47(1): 94-103. DOI: https://doi.org/10.1177/0047287507312429

[25] Das, S.K. 2013. Growth and Prospects of Odisha Tourism: An Empirical Study, *Odisha Review,* August-September, 125-134. Available at: https://www.cabdirect.org/cabdirect/abstract/20143136333

[26] Demirhan, B. 2016. Tourism-Led Growth Hypothesis in Mediterranean Countries: Evidence from a Panel Cointegration and Error Correction Model, *Applied Economics and Finance,* 3(1): 38-53. DOI:https://doi.org/10.11114/aef.v3i1.1207

[27] Dritsakis, N. 2004.Tourism as a Long-Run Economic Growth Factor: An Empirical Investigation for Greece, *Tourism Economics*, 10(3): 305-316. DOI: https://doi.org/10.5367/0000000041895094

[28] Dritsakis, N. 2012. Tourism development and economic growth in seven Mediterranean countries: a panel data approach, *Tourism Economics*, 18: 801-816. DOI: https://doi.org/10.5367/te.2012.0140

[29] Du, D., A.A., Lew and P.T. Ng. 2016. Tourism and Economic Growth, *Journal of Travel Research*, 55(4): 454-464. DOI: https://doi.org/10.1177/0047287514563167

[30] Durbarry, R. 2002: The Economic Contribution of Tourism in Mauritius, *Annals of Tourism Research*, 29(3): 862-865. DOI: https://doi.org/10.1016/S0160-7383(02)00008-7

[31] Eeckels, B., Filis, G. and Leon, C. 2012. Tourism income and economic growth in Greece: Empirical evidence from their cyclical components, *Tourism Economics*, 18:817-834. DOI: https://doi.org/10.5367/te.2012.0148

[32] Engle, R.F. and Granger, C.W.J. 1987. Co-integration and error correction: representation, estimation, and testing, *Econometrica*, 55: 251-76. DOI: https://doi.org/10.2307/1913236

[33] Eugenio-Martin, J. L., N. M. Morales, and Scarpa, R. 2004. Tourism and Economic Growth in Latin American Countries: A Panel Data Approach, *Working Paper Series No.26*, *Fondazione Eni Enrico Mattei* (ENI Enrico Mattei Foundation). Available at: http://home.wlu.edu/~caseyj/spring07devseminar/latinAmtourand%20dev.pdf

[34] Fayissa, B., S. Nsiah and Tadasse, B. 2007. The Impact of Tourism on Economic Growth and Development in Africa, *Working Papers Series No. 16*, Africa: Department of Economics and Finance, Middle Tennessee State University. Available at: http://capone.mtsu.edu/berc/working/TourismAfricawp.pdf

[35] Fayissa, B., S. Nsiah and Tadesse, B. 2009. Tourism and Economic Growth in Latin American Countries: Further Empirical Evidence, *Working Paper Series*. Africa: Department of Economics and Finance. Middle Tennessee State University. Available at: http://capone.mtsu.edu/berc/working/TourismLAC03-5-09WP.pdf

[36] Gill, N. and Singh, R.P. 2011. Tourism Dynamic Assessment Using Geospatial Approach in Bageshwar District, Uttarakhand, *Recent Research in Science and Technology*, 3(5): 109-113.

[37] Gill, N. and Singh, R.P. 2013. Socio-Economic Impact Assessment of Tourism in Pithoragarh District, Uttarakhand, *International Journal of Advancement in Remote Sensing, GIS and Geography*, 1(1): 1-7. Available at: http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.670.9966&rep=rep1&type=pdf

[38] Gimeno, R.P. 1988. La demanda de servicios turísticos en España, [The Demand for Tourism Services in Spain] *Investigaciones Económicas* [Economic Research], 12(1):137–157.

[39] Gunduz, L., and Hatemi-J, A. 2005. Is the Tourism-Led Growth Hypothesis Valid for Turkey? *Applied Economics Letters*, 12(8): 499-504. DOI: https://doi.org/10.1080/13504850500109865

[40] Im, K.S, Pesaran, M.H, and Shin, Y. 2003. Testing for unit roots in heterogeneous panels. *Journal of Econometrics*, 115: 53-74. DOI: https://doi.org/10.1016/S0304-4076(03)00092-7

[41] Jaunky, V.C. 2012a. Is there a material Kuznets curve for aluminium? Evidence from rich countries, *Resources Policy*, 37: 296-307. DOI: https://doi.org/10.1016/j.resourpol.2012.04.001

[42] Jaunky, V.C. 2012b. Democracy and economic growth in Sub-Sahara Africa: a panel data approach, *Empirical Economics*, 45(2):987-1008. DOI: https://doi.org/10.1007/s00181-012-0633-x

[43] Kao, C. 1999. Spurious regression and residual-based tests for cointegration in panel data, *Journal of Econometrics*, 90:1-44. DOI: https://doi.org/10.1016/S0304-4076(98)00023-2

[44] Kao, C. and Chiang, M. H. 2000. On the estimation and inference of a cointegrated regression in panel data, in: Baltagi, B.H. (ed.), *Advances in Econometrics: Nonstationary Panels, Panel Cointegration and Dynamic Panels,* 15: 179–222. DOI: https://doi.org/10.1016/S0731-9053(00)15007-8

[45] Katircioglu, S.T. 2009. Revisiting the tourism-led-growth hypothesis for Turkey using the bounds test and Johansen approach for cointegration, *Tourism Management,* 30: 17-20. DOI: https://doi.org/10.1016/j.tourman.2008.04.004

[46] Kaur, T. P. and Kansra, P. 2018. Tourism-led Economic Growth in India: An Application of Vector Error Correction Model, *International Journal of Business and Globalization*, 21(4): 517-530. DOI: https://doi.org/10.1504/IJBG.2018.10010254

[47] Khalil, S., Kakar, M. K. and Waliullah. 2007. Role of Tourism in Economic Growth: Empirical Evidence from Pakistan Economy, *The Pakistan Development Review* 46(4-Part II): 985–995. Available at: http://www.pide.org.pk/pdf/PDR/2007/Volume4/985-995.pdf

[48] Khan, H., S. Phang, and Toh, R. 1995. The Multiplier Effect: Singapore's Hospitality Industry, *The Cornell Hotel and Restaurant Administration Quarterly*, 36(1): 64-69. DOI: https://doi.org/10.1177/001088049503600121

[49] Kim, H.J., Chen, M. H. and Jang, S.S. 2006. Tourism Expansion and Economic Development: The Case of Taiwan, *Tourism Management*, 27(5): 925-933. DOI: https://doi.org/10.1016/j.tourman.2005.05.011

[50] Kreishan, F. M. M. 2010. Tourism and Economic Growth: The Case of Jordan, *European Journal of Social Sciences*, 15(2): 63-68. Available at: http://dergipark.gov.tr/download/article-file/364164

[51] Kum, H., Aslan, A. and Gungor, M. 2015. Tourism and Economic Growth: The Case of Next-11 Countries, *International Journal of Economics and Financial Issues*, 5(4): 1075-1081. Available at: http://dergipark.gov.tr/download/article-file/363129

[52] Lanza, A., Templec, P., and Urgad, G. 2003. The implications of tourism specialization in the long-run: An econometric analysis for 13 OECD economies, *Tourism Management*, 24: 315–321. DOI: https://doi.org/10.1016/S0261-5177(02)00065-1

[53] Lean, H.H. and Tang, C.F. 2010. Is the Tourism-Led Growth Hypothesis Stable for Malaysia? A Note, *International Journal of Tourism Research*, 12: 375-378. DOI: https://doi.org/10.1002/jtr.759

[54] Lee, C. and Kwon, K.1995. Importance of Secondary Impact of Foreign Tourism Receipts on the South Korean Economy, *Journal Travel Research*, 34(2): 50-54. DOI: https://doi.org/10.1177/004728759503400210

[55] Lee, C. C. and Chang, C.P. 2008. Tourism Development and Economic Growth: A Closer Look at Panels, *Tourism Management*, 29(1): 180-192. DOI: https://doi.org/10.1016/j.tourman.2007.02.013

[56] Levin, A., Lin, C.F., and Lin, Chu J. 2002. Unit root tests in panel data: asymptotic and finite-sample properties, *Journal of Econometrics*, 108: 1-24. DOI: https://doi.org/10.1016/S0304-4076(01)00098-7

[57] Lim, C. 1987. Review of International Tourism Demand Models, *Annals Tourism Research*, 24(4): 835-849. DOI: https://doi.org/10.1016/S0160-7383(97)00049-2

[58] Llorca-Rodríguez, C.M., A.C. Casas-Jurado, and García-Fernández, R.M. 2016. The Regional Polarization of Tourism's Contribution to Economic Growth in Peru: Alternative Solutions, *Tourism Economics*, 22(2): 397-415. DOI: https://doi.org/10.5367/te.2014.0425

[59] Maddala, G.S., and Wu, S. 1999. A comparative study of unit root tests with panel data and a new simple test, *Oxford Bulletin of Economics and Statistics*, (Special Issue): 631-652. DOI: https://doi.org/10.1111/1468-0084.61.s1.13

[60] Mallick, L., U. Mallesh, and Behera, J. 2016. Does Tourism Affect Economic Growth in Indian States? Evidence from Panel ARDL Model, *Theoretical and Applied Economics*, 23(1):183-194. http://store.ectap.ro/articole/1170.pdf

[61] Mishra, P. K., Rout, H. B. and Pradhan, B. B. 2018. Seasonality in Tourism and Forecasting Foreign Tourist Arrivals in India, *Iranian Journal of Management Studies*, 11(4): (Article in Press) DOI: https://doi.org/10.22059/IJMS.2018.239718.672776

[62] Mishra, P. K., Rout, H. B., and Sanghamitra. 2016. Tourism in Odisha: An Engine of Long-Run Growth, *Journal of Tourism Management Research*, 3(2): 74-84. DOI: https://doi.org/10.18488/journal.31/2016.3.2/31.2.74.84

[63] Mishra, P.K., and Rout, H. B. 2012-13. Economic Impact of Tourism: A Case Study of Jharkhand, *International Journal of Economics and Managerial Thoughts*, 3(2): 130-139

[64] Mishra, P.K., and Verma, J. K. 2017. Tourism and Peace in Economic Development Perspective of India, *Journal of Environmental Management and Tourism*, 8(4), 927-934. DOI: http://dx.doi.org/10.14505/jemt.v8.4(20).23

[65] Mishra, P.K., H.B. Rout and Mohapatra, S. 2011. Causality between Tourism and Economic Growth: Empirical Evidence from India, *European Journal of Social Sciences*, 18: 518-527. Available at: https://www.researchgate.net/publication/280305614_Causality_between_tourism_and_economic_growth_Empirical_evidence_from_india

[66] Munshi, T. and Mishra, P. K. 2016. Can Tourism a Catalyst for Economic Growth of Haryana?, *Paper Presented at ICSSR Sponsored National Seminar on Make in Haryana: A Road Ahead.* Central University of Haryana, India, March 17-18.

[67] Narayan, P.K., Sharma, S.S., and Bannigidadmath, D. 2013. Does tourism predict macroeconomic performance in Pacific Island countries?, *Economic Modeling,* 33: 780-786. DOI: https://doi.org/10.1016/j.econmod.2013.05.018

[68] Oh, C.O. 2005. The Contribution of Tourism Development to Economic Growth in the Korean Economy, *Tourism Management*, 26(1): 39-44. DOI: https://doi.org/10.1016/j.tourman.2003.09.014

[69] Ohlan, R. 2017. The Relationship between tourism, financial development and economic growth in India, *Future Business Journal*, 3: 9-22. DOI: https://doi.org/10.1016/j.fbj.2017.01.003

[70] Pedroni, P. 1999. Critical values for cointegration tests in heterogeneous panels with multiple regressors, *Oxford Bulletin of Economics and Statistics*, 61: 653-670. DOI: https://doi.org/10.1111/1468-0084.61.s1.14

[71] Pedroni, P. 2000. Fully modified OLS for the heterogeneous cointegrated panels. *Advances in Econometrics*, 15:93–130. DOI: https://doi.org/10.1016/S0731-9053(00)15004-2

[72] Pedroni, P. 2001a. Asymptotic and finite sample properties of pooled time series tests with an application to the PPP hypothesis, *Economics Working Paper*, Indiana University.

[73] Pedroni, P. 2001b. Purchasing power parity tests in cointegrated panels, *Review of Economics and Statistics*, 83(4): 727-731. DOI: https://doi.org/10.1162/003465301753237803

[74] Pedroni, P. 2004. Panel cointegration: asymptotic and finite sample properties of fooled time series tests with an application to the PPP hypothesis, *Econometric Theory*, 20: 597–625. DOI: https://doi.org/10.1017/S0266466604203073

[75] Phouphet, K., John, L., Gallup, T. Charoenrat, and Nozaki, K. 2018. Testing tourism-led growth hypothesis in Laos?, *Tourism Review*, 73(2): 242-251. DOI: https://doi.org/10.1108/TR-03-2017-0034

[76] Pleumarom, A. 2012. The Politics of Tourism and Poverty Reduction, in: David Leslie *(*eds.) *Responsible Tourism: Concepts, Theory and Practice,* CAB International, UK, p.179. DOI: https://doi.org/10.1079/9781845939878.0090

[77] Richardson, R.B. 2010. The Contribution of Tourism to Economic Growth and Food Security, *Research Paper Prepared for USAID Mali*. Office of Economic Growth, p.1-8. Available at: http://ageconsearch.umn.edu/record/97140/files/Tourism_and_food_security_in_Mali_A4.pdf

[78] Rout, H. B., Mishra, P.K., and Pradhan, B.B. 2016a. Socio-Economic Impacts of Tourism in India: An Empirical Analysis, *Journal of Environmental Management and Tourism*, 7(4): 762-768. DOI: https://doi.org/10.14505/jemt.v7.4(16).22

[79] Rout, H. B., Mishra, P. K., and Pradhan, B. B. 2016b. Nexus between Tourism and Economic Growth: Empirical Evidence from Odisha, India, *International Journal of Applied Business and Economic Research*, 14(11): 7491-7513. Available at: http://docplayer.net/89847397-Nexus-between-tourism-and-economic-growth-empirical-evidence-from-odisha-india.html

[80] Rout, H.B., Mishra, P.K., and Pradhan, B.B. 2016c. Trend and Progress of Tourism in India: An Empirical Analysis, *International Journal of Economic Research*, 13(5): 2265- 2275. Available at: https://www.researchgate.net/publication/310511987_Trend_and_progress_of_tourism_in_India_An_empirical_analysis

[81] Sahu, K.K. 2013. Growth and Prospects of Tourism in Odisha, *International Journal of Humanities and Social Science Invention*, 2(5): 22-28

[82] Seetanah, B. 2011. Assessing the dynamic economic impact of tourism for island economies, *Annals of Tourism Research,* 38(1): 291-308. DOI: https://doi.org/10.1016/j.annals.2010.08.009

[83] Seghir, G. M., B. Mostéfa, S. M. Abbes, and Zakaryaa, G. Y. 2015. Tourism Spending-Economic Growth Causality in 49 Countries: A Dynamic Panel Data Approach, *Procedia Economics and Finance*, 23: 1613-1623. DOI: https://doi.org/10.1016/S2212-5671(15)00402-5

[84] Sequeira, T.N. and Campos, C. 2005. International Tourism and Economic Growth: A Panel Data Approach, *Working Paper No 141.* Fondazione Eni Enrico Mattei di Lavoro, National Resources Management, DOI: http://ssrn.com/abstract=855985

[85] Shakouri, B., Yazdi, S. K., Nategian, N., and Shikhrezaei, N. 2017. The Relation between International Tourism and Economic Growth, *Journal of Tourism and Hospitality*, 6(4), 1-7. DOI: https://doi.org/10.4172/2167-0269.1000295

[86] Sharma, N. 2018. Tourism-Led Growth Hypothesis: Empirical Evidence from India, *African Journal of Hospitality, Tourism and Leisure*, 7(2), 1-11. Available at: https://www.ajhtl.com/uploads/7/1/6/3/7163688/article_7_vol_7__2__2018.pdf

[87] Skerritt, D. and Huybers, T. 2005. The Effect of International Tourism on Economic Development: An Empirical Analysis, *Asia Pacific of Tourism Research*, 10(1): 23-43. https://doi.org/10.1080/1094166042000330209

[88] Soukiazis, E., amd Proença, S. 2008. Tourism as an alternative source of regional growth in Portugal: a panel data analysis at NUTS II and III levels, *Port Economics Journal*, 7: 43–61. https://doi.org/10.1007/s10258-007-0022-0

[89] Suba, T. and Selvachantra. 2014. Promoting Tourism Marketing in India: Need for Economic Development, *AE International Journal of Multidisciplinary Research*, 2(9):1-9. Available at: http://aeijmr.com/wp-content/uploads/2018/02/Promoting-of-Tourism-Marketing-in-India-Need-for-Economic-Development.pdf

[90] Surugiu, C. and Surugiu, M.R. 2013. Is the tourism sector supportive of economic growth? Empirical evidence on Romanian tourism, *Tourism Economics*, 19: 115-132.DOI: https://doi.org/10.5367/te.2013.0196

[91] Tang, C.F. and Tan, E.C. 2015. Does tourism effectively stimulate Malaysia's economic growth?, *Tourism Management*, 46:158-163. DOI: https://doi.org/10.1016/j.tourman.2014.06.020

[92] Tang, C.H.H. and Jang, S.S. 2009. The tourism-economy causality in the United States: a sub-industry level examination, *Tourism Management*, 30: 553-558. DOI: https://doi.org/10.1016/j.tourman.2008.09.009

[93] Tosun, C. 1999. An Analysis of Contributions International Inbound Tourism to the Turkish Economy, *Tourism Economics*, 5(3):217-250. DOI: https://doi.org/10.1177/135481669900500301

[94] Vita, G. and Kyaw, K.S. 2016. Tourism Specialization, Absorptive Capacity and Economic Growth, *Journal of Travel Research*, 56(4): 423-435. DOI: https://doi.org/10.1177/0047287516650042

[95] Wickremasinghe, G. B. and Ihalanayake, R. 2006. The Causal Relationship between Tourism and Economic Growth in Sri Lanka: Some Empirical Evidence, *Working paper Series-WP-2006-10*, School of Applied Economics, Victoria University. Available at: https://www.researchgate.net/publication/228587058_The_Causal_Relationship_between_Tourism_and_Economic_Growth_in_Sri_Lanka_Some_Empirical_Evidence

[96] Zortuk, M. 2009. Economic Impact of Tourism on Turkey's Economy: Evidence from Cointegration Tests, *International Research Journal of Finance and Economics*, 25(3): 231-239. Available at: https://www.researchgate.net/publication/285833323_Economic_impact_of_tourism_on_turkey's_economy_Evidence_from_cointegration_tests

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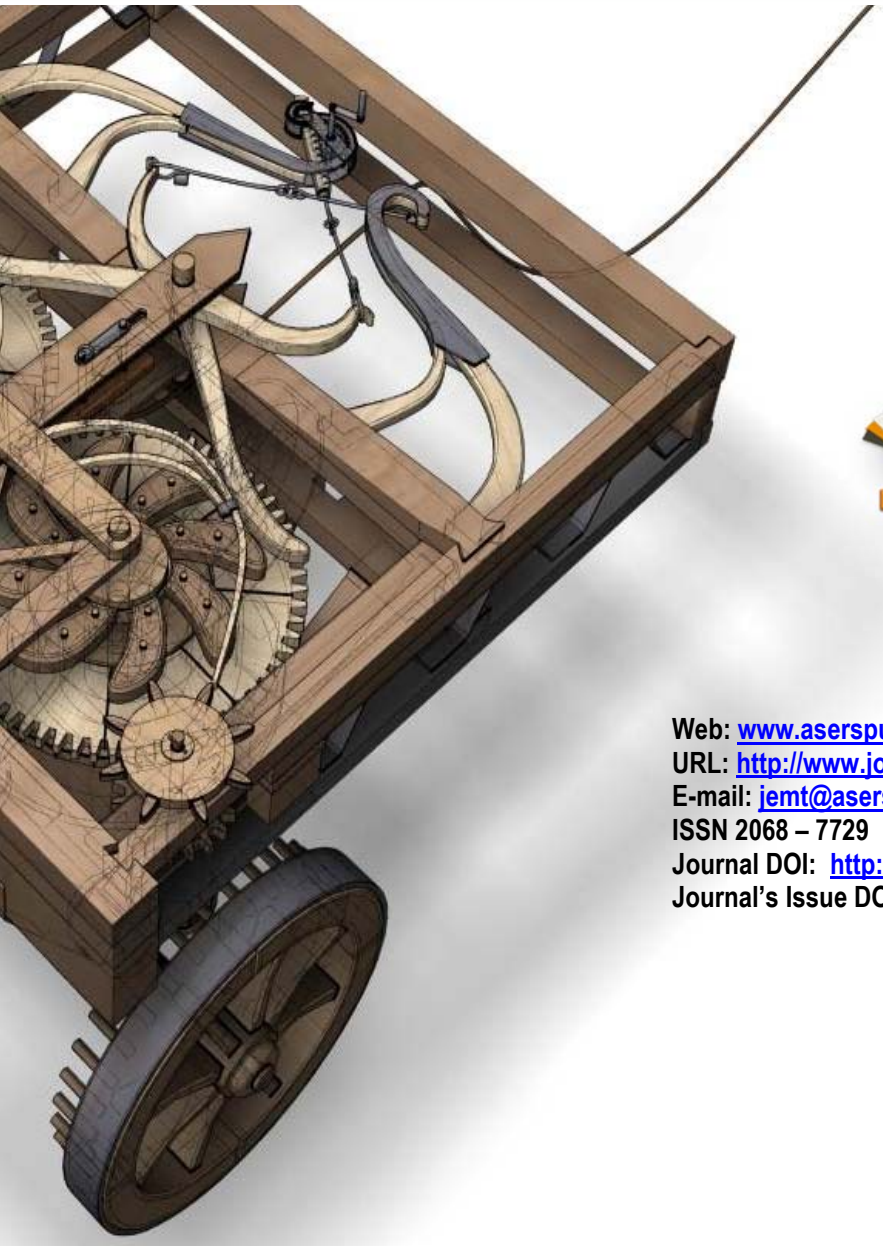

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