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Does Tourism Boost Economic Growth: Evidence from Italy

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Abstract:

Purpose: *Tourism plays a crucial role in enhancing the nation's welfare. Therefore, this study's core idea is to investigate tourist arrival, tourism growth, tourism expenditure, and its associated economic headway impact.*
Approach/Methodology/Design: *Using an annual time series data from 1995-2018, capturing the effect of tourism growth, tourism expenditure on economic growth, and finally revealing the association amongst these endogenous and exogenous parameters.*
Findings: *The unit root test analysis outcomes illustrate that all parameters become stationary when a first-order difference is considered as having a lag value of one. ADRL Bound test reveals the presence of short-run association among parameters. The outcomes of t-statistics and the Wald F-test reveal bidirectional and unidirectional causation among the parameters.*
Practical Implications: *The study will contribute positively to the understanding of tourism and its associated effect to boost the economy.*
Originality/Value: *The study believes to contribute positively to the understanding of the tourism sector.*

Keywords: *Tourism growth, tourism expenditure, economic growth, ARDL bound test.*

JEL classification: *C01, C22, O11.*

Paper Type: *Case study.*

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1. Introduction

Nowadays, tourism is considered a significant category of international trade in services and has become one of the most noticeable and growing sectors. Tourism encompasses the growth and development of a country: firstly, by bringing multiple economic values and benefits and, secondly, helping to build a country's brand value, image, and identity. It is an essential component of export diversification for emerging and advanced economies, with a strong capacity to reduce trade deficits and compensate for weaker export revenue from other goods and services. Italy ranks 5th in tourist arrivals and ranks 6th in tourist receipts (UNWTO, 2019). It contributes 13.0% to Italian GDP with a growth of 2.2% and 0.1% in real economy GDP growth compared to the previous year. The global economy grew by 2.5%, travel and tourism grew significantly more at 3.5%, out of 4 new jobs, one job created by tourism. About 14.9% of total employment is contributed by tourism in Italy (WTTC, 2019).

By appealing international tourists, tourism contributes to bringing foreign exchange earnings, which generates employment, improved infrastructure, and quality of life, which in turn help in the sustainable economic growth of that particular country as tourist contribute to sales, profits, jobs, tax revenue and income in an area.

2. Literature Review

The expansion of tourism has been recognized globally as a catalyst for economic growth, agriculture and energy development, and poverty mitigation. Oh (2005) suggested a one-way causal association of economic growth that leads to tourism growth. Samina *et al.* (2007) felt that there is a strong link between tourism receipts and economic growth, and economic expansion is essential for tourism development. Fayissa *et al.* (2007) witnessed that tourism receipts could significantly impact the current GDP and economic growth. Akan *et al.* (2008) explored the cause and effect link between tourism and economic expansion. Further, they found that tourism had strongly affected by economic expansion. Kreishan (2011) empirically investigated the tourism-led-growth hypothesis (TLGH) and identified a favourable bond among tourism progress and economic expansion; further, he revealed a one-way Granger causality flowing from tourism progress to economic expansion. Wang (2015) found a strong association between the GDP and tourist income in Guihoz, China.

Bayramoglu and Ari (2015) acknowledged a positive one-way causality from foreign tourists' expenditures to economic growth. Tang (2015) indicated that tourism causes Malaysian economic development in both the short and long-run. Ahad (2016) advocated a tourism-led growth for Pakistan and discovered a dual association between tourism expenditure and economic progress. Phiri (2016) stressed that tourism should be gradually recognized as an essential element of economic progress and expansion and established tourism-led development where tourism receipts acted as a tool to expand tourism. Ohlan (2017) discovered long-run one-way causation

running from tourism to economic growth. Tabash (2017) similarly found a unique long-term connection between tourism receipts and economic growth.

Blanka and Zyonimir (2016) claimed that tourism leads to development when tourist receipts are used to assess tourism development. Similarly, Chris (2015) and Leit-Ao and Shahbaz (2016) exposed that tourist arrivals and tourism receipts are strongly linked to economic expansion. Dogru and Bulut (2018) revealed a both-ways causality between tourism receipts and economic development. Usmani *et al.* (2020) established that tourist expenditure has a strong influence on economic progress, while tourist arrivals do not significantly impact. Further, they found dual causality running between tourist expenditure and economic progress. Khan *et al.* (2020) highlighted the importance of tourism in the expansion of emerging economies, while Adamopoulos and Thalassinos (2020) studied tourism and economic growth in the G-6 countries.

This study's core idea is to create an econometric model that investigates the link between tourist arrival, tourism growth, tourism expenditure, and Italy's economic growth.

3. Methodology

Annual time series from 1995 to 2018 are taken in our study, which should be sufficient to capture the association between tourism growth (measured in terms of tourism receipt), tourism expenditure (measured in terms of tourism expenditure), and economic growth (measured in terms of GDP) in this model.

The macroeconomic model is formulated using the variable to investigate the causal association among the variable as:

$$\text{Economic growth} = f\ (tourist\ arrival, tourism\ growth, tourism\ expenditure)$$

$$Tourist\ arrival = f\ (economic\ growth, tourism\ growth, tourism\ expenditure)$$

$$Tourism\ growth = f\ (economic\ growth, tourist\ arrival, tourism\ expenditure)$$

$$Tourism\ expenditure = f\ (economic\ growth, tourist\ arrival, tourism\ growth)$$

All the variables are used in a real term and transformed into logarithmic function:

$$LY_t = log(Y_t)$$

Long run Model can be expressed as:

$$lng_t = \emptyset_{01} + b_{11} lng_{t-1} + b_{21} lna_{t-1} + b_{31} lne_{t-1} + b_{41} lnr_{t-1} + e_{1t}$$

Short run Model can be expressed as:

$$\Delta lng_t = \partial_{01} + \sum_{i=1}^{p} \partial_{1i} \Delta lng_{t-i} + \sum_{i=1}^{q} \partial_{2i} \Delta lna_{t-i} + \sum_{i=1}^{q} \partial_{3i} \Delta lne_{t-i} + \sum_{i=1}^{q} \partial_{4i} \Delta lnr_{t-i} + \varepsilon_{1t}$$

$$\Delta lna_t = \partial_{02} + \sum_{i=1}^{p} \partial_{1i} \Delta lna_{t-i} + \sum_{i=1}^{q} \partial_{2i} \Delta lng_{t-i} + \sum_{i=1}^{q} \partial_{3i} \Delta lne_{t-i} + \sum_{i=1}^{q} \partial_{4i} \Delta lnr_{t-i} + \varepsilon_{1t}$$

$$\Delta lne_t = \partial_{03} + \sum_{i=1}^{p} \partial_{1i} \Delta lne_{t-i} + \sum_{i=1}^{q} \partial_{2i} \Delta lng_{t-i} + \sum_{i=1}^{q} \partial_{3i} \Delta lna_{t-i} + \sum_{i=1}^{q} \partial_{4i} \Delta lnr_{t-i} + \varepsilon_{1t}$$

$$\Delta lnr_t = \partial_{03} + \sum_{i=1}^{p} \partial_{1i} \Delta lnr_{t-i} + \sum_{i=1}^{q} \partial_{2i} \Delta lng_{t-i} + \sum_{i=1}^{q} \partial_{3i} \Delta lna_{t-i} + \sum_{i=1}^{q} \partial_{4i} \Delta lne_{t-i} + \varepsilon_{1t}$$

Where; *lng; represents the log value of economic growth, lna; represents the log value of number of tourist arrival; lne; represents the log value of tourism expenditure, lnr; represents log value of tourism growth, ∂ is the coefficient and ε; represents the error.*

4. Empirical Analysis

Table 1 represents the lag selection criterion to be at one lag order. The unit root tests indicate the first difference level of significance as disclose in Table 2. However, Table 3 depicts the conclusion of the ARDL bound test.

Table 1. *VAR lag order selection criterion*

Lag	LogL	LR	FPE	AIC	SC	HQ
0	72.36967	NA	2.35E-08	-6.21543	-6.21543	-6.1687
1	135.5803	97.68911*	3.32E-10*	-10.5073*	-9.51544*	-10.2737*
2	149.6424	16.61882	4.70E-10	-10.3311	-8.54578	-9.91055

Source: *Author's Computation.*

Table 2. *Unit Root Test*

		ADF		Phillips-Perron	
		t-statistic	Prob.	Adj. t-stat.	Prob.

LNG	Level	-1.3185	0.603	-1.3483	0.589
	1st Difference	-3.6695	0.0125**	-3.7036	0.0116**
LNA	Level	-0.0788	0.9408	0.04197	0.9534
	1st Difference	-4.317	0.003*	-4.3549	0.0027*
LNE	Level	-1.5088	0.5114	-1.4639	0.5334
	1st Difference	-5.2813	0.0003*	-5.2803	0.0003*
LNR	Level	-0.5453	0.8646	-0.5453	0.8646
	1st Difference	-3.4628	0.0194**	-3.3934	0.0225**

Note: **,** represents 1% and 5% significance level*
Source: *Author's computation.*

Table 3. *Summary of Bound Test (Unrestricted Const. & No Trend)*

	F-Statistics	t-statistics	Cointegration	Inference
LNG	2.143032	-1.96563	No	Estimation of ARDL(Short-run)
LNA	2.27455	-1.4349	No	Estimation of ARDL(Short-run)
LNE	3.20192	-3.4179	No	Estimation of ARDL(Short-run)
LNR	1.95266	-1.8329	No	Estimation of ARDL(Short-run)

Table 4. *Regressors t-statistic and Wald coefficient test*

		t-statistic		Wald F-Statistic			
		t-statistic	Prob.	F-statistic	Prob.	Chi-square	Prob.
	LNA	-2.52335	0.0226**				
	LNA(-1)	1.844786	0.0837***	3.706162	0.0476**	7.412323	0.0246**
	LNE	-1.50752	0.1512	2.272613	0.1512	2.272613	0.1317
	LNR	8.020295	0.00*				
LNG	LNR(-1)	-2.5087	0.0233**	32.28077	0.00*	64.56154	0.00*
	LNE	-1.0498	0.3077	1.102165	0.3077	1.102165	0.2938
	LNR	2.844023	0.0108**	8.088466	0.0108**	8.088466	0.0045*
LNA	LNG	-2.32749	0.0318**	5.41721	0.0318**	5.41721	0.0199**
	LNR	2.172219	0.0434**	4.718536	0.0434**	4.718536	0.0298**
	LNG	-2.9014	0.0095*	8.418141	0.0095*	8.418141	0.0037*
LNE	LNA	-0.67055	0.511	0.449637	0.511	0.449637	0.5025
	LNG	8.020295	0.00*				
	LNG(-1)	-2.882	0.0108**	32.17874	0.00*	64.35748	0.00*
	LNA	-2.882	0.0151**				
	LNA(-1)	2.719796	0.0873***	4.941062	0.0213**	9.882124	0.0071*
LNR	LNE	1.110541	0.2832	1.2333	0.2832	1.2333	0.2668

If there is no co-integration, the ARDL (p, q_1, q_2) model can be estimated as:

$$\Delta lng_t = 0.015422 + 0.207925\Delta lng_{t-i} + 0.010498\Delta lna_{t-i} + 0.06417\Delta lne_{t-i} + 0.038614\Delta lnr_{t-i} + \varepsilon_{1t}$$

$$\Delta lna_t = 0.028713 + 0.071433\Delta lna_{t-i} - 0.075786\Delta lng_{t-i} - 0.040038\Delta lne_{t-i} - 0.11746\Delta lnr_{t-i} + \varepsilon_{2t}$$

$$\Delta lne_t = 0.006325 - 0.157043\Delta lne_{t-i} - 0.531738\Delta lng_{t-i} - 0.507197\Delta lna_{t-i} + 0.592873\Delta lnr_{t-i} + \varepsilon_{3t}$$

$$\Delta lnr_t = 0.018926 + 0.234809\Delta lnr_{t-i} + 0.03939\Delta lng_{t-i} - 0.070443\Delta lna_{t-i} + 0.118204\Delta lne_{t-i} + \varepsilon_{4t}$$

Table 5. *Summary of t-statistics & Wald test*

Dependent	t-statistics	Wald F-test
LNG	*lna: Significant*	*lna: Significant*
	lnr: Significant	*lnr: Significant*
LNA	*lnr: Significant*	*lnr: Significant*
	lng: Significant	*lng: Significant*
LNE	*lnr: Significant*	*lnr: Significant*
	lng: Significant	*lng: Significant*
LNR	*lna: Significant*	*lna: Significant*
	lng: Significant	*lng: Significant*

Source: *Author's computation.*

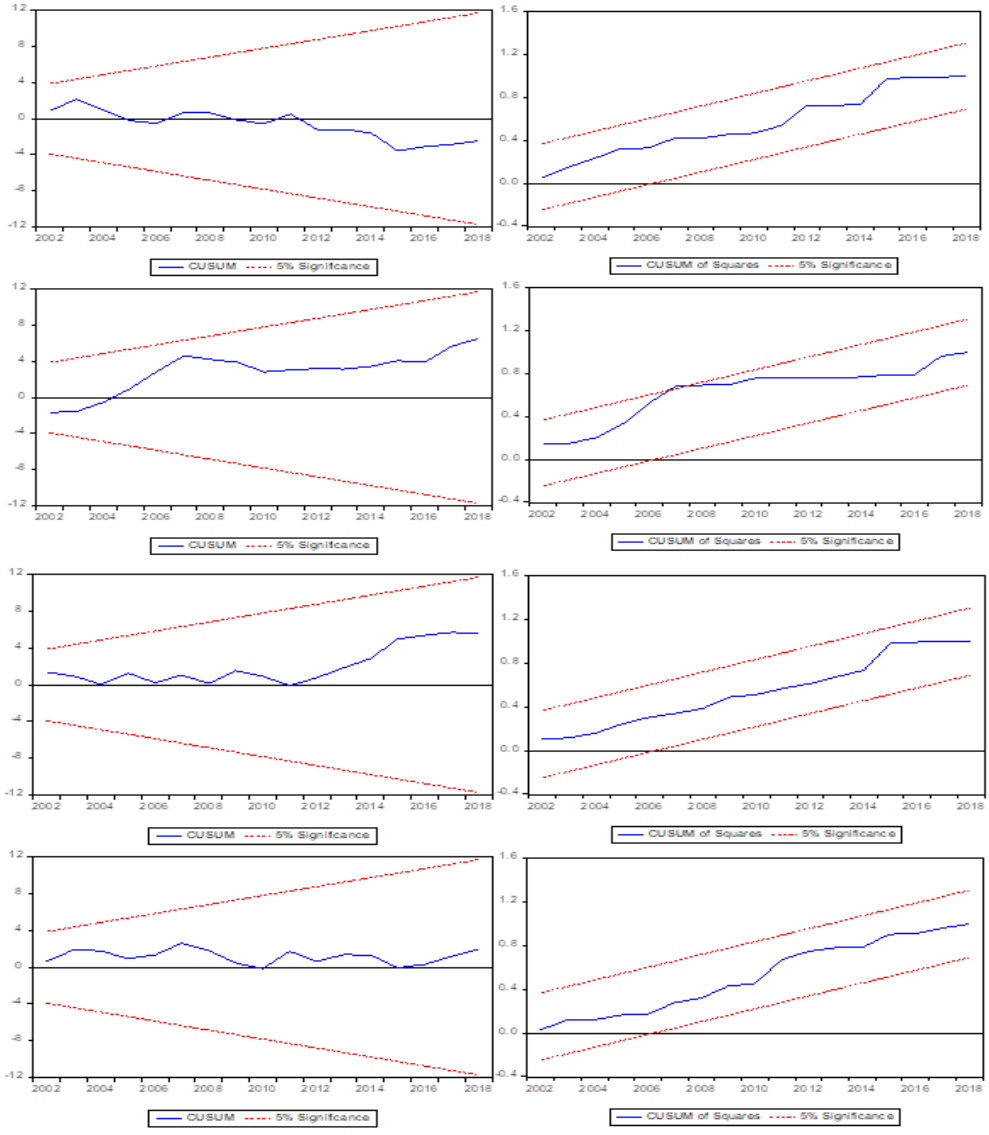
As demonstrated in Tables 4 and 5, the outcomes of t-statistic, F-statistic, and Chi-square show that all the p-values are below 5%. Hence, we cannot reject the null hypothesis and reveal a short-run causality among the parameters. Table 6 and Figure1 disclose that the entire model is well specified and dynamically stable.

Table 6. *Summary of Diagnostic Test*

Dependent	Breusch-Godfrey Serial Correlation LM Test			Inference
LNG	F-statistic	1.439398	(0.2477)	The null hypothesis of no serial correlation could not be rejected.
	Obs*R-sq	1.815817	(0.1778)	
LNA	F-statistic	0.096681	(0.7599)	
	Obs*R-sq	0.132138	(0.7162)	
LNE	F-statistic	0.317754	(0.5808)	
	Obs*R-sq	0.428404	(0.5128)	
LNR	F-statistic	0.359946	(0.5572)	
	Obs*R-sq	0.48338	(0.4869)	
	Breusch-Pagan-Godfrey Heteroskedasticity Test			Inference
LNG	F-statistic	0.289007	(0.8811)	The null hypothesis of no heteroskedasticity could not be rejected.
	Obs*R-sq	1.400779	(0.8441)	
LNA	F-statistic	0.358175	(0.8348)	
	Obs*R-sq	1.709972	(0.7889)	
LNE	F-statistic	1.372768	(0.2848)	
	Obs*R-sq	5.371178	(0.2513)	
LNR	F-statistic	0.849095	(0.5136)	
	Obs*R-sq	3.663412	(0.4535)	
LNG	Jarque-Bera	0.428671	(0.807078)	The null hypothesis of normal distribution could not be rejected.
LNA	Jarque-Bera	0.634744	(0.72806)	
LNE	Jarque-Bera	1.122365	(0.570534)	
LNR	Jarque-Bera	0.932013	(0.627503)	

Source: *Author's computation.*

Figure1. *Recursive estimates- CUSUM & CUSUM Sq.*



Source: *Author's results.*

5. Conclusion

The current study is based on a two-fold investigation method. Firstly, it investigates the association among the parameters. Secondly, if such an association exhibits tried to explore the causality. Empirical results reveal short-run association among the

parameters, t-statistic and Wald F-statistic discloses dual causation among economic growth to tourism growth, and economic growth to tourist arrivals, while one-way causation among economic growth to tourism expenditure, tourism growth to tourism expenditure, and no causal association among tourist arrivals and tourism expenditure. The diagnostic test reveals that the entire model is well specified and dynamically stable.

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