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JPVAI
Online ISSN: 2663-9181. Print ISSN: 2663-919X

Journal Article	Journal of Public Value and Administrative Insight
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Volume 3 Issue 2 – June 2020	Doi: 10.31580/jpvai.v3i2.1362
Submission: May. 05, 2020	**Revised:** June, 20 2020 **Accepted:** June 30, 2020

Determinants of Inbound Tourism in Pakistan: A GMM Based Analysis

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Abstract

The objective of the study is to examine the different factors that influenced inbound tourism in Pakistan by using a time series data from 1975-2017. The study employed Generalized Method of Moments (GMM) estimator that accounts possible endogeneity in the given set of regressors. The results confirmed the positive relationship between GDP per capita and inbound tourism, which further exhibit in the Granger causality approach where it's verified the growth -led tourism hypothesis in a country. The results further show the feedback relationship between industrial value added and country's per capita income while there is unidirectional causality running from industry value added to trade openness and FDI inflows to industrial value added in a country. The study conclude with the fact that country's economic resources helpful to attract international tourists in order to spend their time in pleasure destinations, which is vital sign for Pakistan's economy to attract more international tourists that helpful to receipt foreign exchange earnings for the country.

Keywords: *Inbound tourism; GDP per capita; Industry value added; Trade openness; FDI inflows; GMM estimator; Pakistan.*
Jel Classification Code: C32, F14 ,Z32.

INTRODUCTION

According to the United Nation World Tourism Organization (UNWTO, 2018), international tourist increases almost 7% in the year 2017. This will increase more 4% to 5% in the year 2018. Table 1 shows the international tourist arrivals in different countries.

TABLE 1: International Tourist Arrivals

Country name	Percentage	Millions	Year
Asia and Pacific	+ 6 %	324	2017
America	+ 3 %	207	2017
Africa	+8 %	62	2017
Middle east	+5 %	56	2017

Source: UNWTO (2018).

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Promotion of international tourism leads a country in several ways like it increases business opportunities, creation of jobs, improve economic growth, political stability and creation of friendly environment with other countries. Social media plays an important role to promote tourism (Irfan et al., 2017). Sustainable development is the most important foundation for the development of the countries. The UNWTO (2018) report describes the 20 most important factors that associated with international tourism, i.e.,

1) Increase country's GDP
2) Increase international trade
3) Increases international investment
4) Create new jobs
5) Increase inclusive growth
6) Promote rural community
7) Boost urban areas
8) Improve income level
9) Improve female labour participation in development
10) Bolsters artisans
11) Facilitate conservation
12) Awareness of climate vulnerabilities
13) Blue economy
14) Improve cultural values
15) Protect intangible culture
16) Spreads philanthropy
17) Intercultural communication
18) Conflict recovery
19) Protect culture sites and
20) Facilitate tourism destination.

Tang and Tan (2015a) considered the causal relationship between international tourism (ITOUR) and Malaysian economic growth and confirmed the "tourism -led growth (TLG)" hypothesis in a country. Al-Mulali et al. (2013) considered the case of Middle East Countries and found a positive association between international tourism (ITOUR) and economic growth (EG) of a country, further ITOUR increases trade activities and depreciation of the local currency. Ertugrul & Mangir (2015) considered Turkish economy as a case study and found a positive association between ITOUR and EG of a country. Brida et al (2015) confirmed the 'TLG hypothesis' in Mercosur during the study time period of 1990 to 2011. Tang and Abosedra (2012) found TLG hypothesis for Lebanon economy, while Tang and Tan (2015b) further confirmed TLG hypothesis for Malaysian economy. Shahzad et al (2017) considered heterogeneous countries panel data and found positive association between ITOUR and country's economic growth among some of the panel countries, while there exhibit weak association in Germany and China. Hatemi-J (2016) argued that tourism activities support country's economic activities in UAE. Tang et al (2016) included energy demand in ITOUR and growth framework for India and

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found positive association between ITOUR and GDP of a country while there is insignificant relationship between ITORU and energy demand in a country. Table 2 shows the recent strikes of literature on international tourism and economic growth across countries.

TABLE 2: Recent literature on tourism and economic growth

Author's	Country	Time period	Techniques	Causality
Bilen et al. (2017)	12 Mediterranean countries	1 995-2012	Granger causality test	TOUR↔GDP
Zaman et al. (2017)	11 transition economies	1 995-2015	Panel techniques	GDP↑TOUR↑FDI↑
Samimi et al. (2017)	Developing countries	1995-2008	Panel VEMC technique	TOUR↔GDP TOUR↔FDI
Chiu and Yeh (2017)	84 countries	Cross sectional data	Threshold regression model	GDP↑TOUR↑
Raza et al. (2017)	United States	1996-2015	Wavelet transform framework	TOUR→GDP
Shahbaz et al. (2017)	Malaysia	1975-2013	Granger causality test	GDP↑TOUR↑TOP↑
Suresh and Tiwari (2018)	India	1991-2012	Granger causality test	TOUR↔GDP
Nassani et al. (2017)	18 tourism Countries	1995-2014	Random effect model, generalized method, panel effect model	TOP↔INV

Note: TOUR show tourism, INV shows investment, → shows unidirectional causality, ↔ shows bidirectional causality, and ↑ shows increasing.

The above stated studies confirmed the long-run relationship between the ITOUR and growth specific factors across countries. The following research hypotheses need to be tested, i.e.,

H1: There will be a positive relationship between GDP and INBOUND.

H2: Industry value added is expected to increase INBOUND tourism in a country.

H3: FDI inflows will increases INBOUND tourism and

H4: Higher trade leads to increases INBOUND tourism.

These hypotheses would be achieved by using GMM technique for parameter estimators.

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The previous studies largely worked in sustainable tourism, while this study included macroeconomic factors including country's economic growth, industry value added, FDI inflows, and trade factors, which is fairly less evaluated in a given country context. The objective of the study is to examine the relationship between INBOUND tourism and GDP of Pakistan while cause effect relationship been analyzed through Granger causality test. The following research questions have been made in line with the research objectives of the study, i.e., *does continued economic growth support to attract international tourists' arrival in a country?* The second research question is: *whether inbound tourists increase their visitation in industrialized economies?* The third research question is: *to what extent financial and trade liberalization policies attract more tourists in a country for safe visitation?* These questions need to be tested in a given country context.

DATA AND METHODOLOGY

The following variables are being used to analyzed TLG hypothesis i.e. inbound tourism (denoted by INBOUND) measured by numbers of tourist arrivals, per capita GDP (denoted by GDPPC) measured in US$, industrial value added (denoted by IND) measured in as % of GDP, trade openness (denoted by TOP) measured by exports plus import relative to GDP and foreign direct investment inflows (denoted by FDI) measured as % of GDP. The data is collect from World Bank (2017).

The following equation is used to asses TLG in a given country i.e.

$$INBOUND = \beta_0 + \beta_1 GDPpc + \beta_2 IND + \beta_3 FDI + \beta_4 TOP + e \quad (1)$$

We expect that GDP per capita increases inbound tourism that helpful to build international tourism infrastructure by receiving net revenues from them. We further assumed that higher the industrialization lead to increase country's economic growth that increases ITOUR. It is expected that FDI inflows and trade openness both support tourism in a country.

GMM estimators works under the finite sample set to reduce endogeneity problem from the given regresses. It works with instrumental variables, which often used first lagged of the independent variables. This technique is robust by number of available econometric techniques, including OLS, 2SLS and 3SLS. The GMM estimator is the robust estimator that worked under finite sample set to minimize the unknown endogeneity issues in economic modeling.

RESULTS AND DISCUSSION

Table 3 shows the descriptive statistics of the variables for ready reference. The man value of GDP per capita is US$820.992 with maximum value of US$1222.52 and minimum value of US$481.457. The mean value of FDI inflows and trade openness is 0.839% of GDP and 33.195% of GDP respectively. The industry value added on average is 5.671% contributed to GDP. The international tourist arrival in Pakistan on average is about 5,65,697 in numbers.

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TABLE 3: Descriptive Statistics

Methods	GDPPC (US$)	FDI (% of GDP)	INBOUND (Number of tourist arrival)	IND (%)	TOP (% of GDP)
Mean	820.9927	0.839754	565697.7	5.671083	33.19564
Maximum	1222.524	3.668323	1161000.	16.26298	38.90949
Minimum	481.4575	0.061630	369000.0	5.206873	25.30623
Std. Dev.	206.5512	0.804819	253228.9	3.631896	3.322445
Skewness	0.081225	2.134731	0.872437	0.060322	0.511907
Kurtosis	2.015157	7.316395	2.104682	4.669036	2.816248

Table 4 shows the correlation matrix between the studied variables. The results show that FDI inflows and inbound tourism both have a positive correlation with the country's per capita income with the estimated coefficient value of 0.536, p<0.000 and 0.869, p<0.000 respectively. The industry value added and trade openness both have a negative and weaker correlation with the country's per capita income due to low industrialization policies and high dependency on capital imported goods that increase the liabilities of a country to pay against such import.

TABLE 4: Correlation Matrix

Probability	GDPPC	FDI	INBOUND	IND	TOP
GDPPC	1				

FDI	0.536	1			
	0.000	-----			
INBOUND	0.869	0.434	1		
	0.000	0.003	-----		
IND	-0.242	0.026	-0.198	1	
	0.117	0.864	0.202	-----	
TOP	-0.245	0.173	-0.395	0.073	1
	0.112	0.266	0.008	0.640	-----

Table 5 shows the estimates of GMM estimator and confirmed that GDP per capita have a positive and significant relationship with inbound tourism, as higher per capita income increases more international tourists in order to spend their pleasure time in country's cultural heritage, however, the other explanatory variables including industry value added, FDI inflows and trade openness unable to signify its significant impact on international tourist arrivals. The results finding are consistent with the previous studies of Shakouri et al (2017) in the context of Iran and Bouzahzah & El Menyari (2013) in the context of Morocco and Tunisia. The GMM estimates only confirmed the hypothesis one, i.e., H1,

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as country's economic growth largely supported the inbound tourism, while the results not supported the H2, H3, and H4 respectively. These hypotheses further be analyzed in causality framework for robust inferences.

TABLE 5: GMM Estimates

Dependent Variable: INBOUND				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-82195.03	226658.1	-0.362639	0.7190
INBOUND(-1)	0.834126	0.137209	6.079259	0.0000
GDPPC	233.4105	133.3589	1.750243	0.0886
IND	9333.969	8553.926	1.091191	0.2824
FDI	12994.15	29088.32	0.446714	0.6578
TOP	-2106.664	5230.485	-0.402767	0.6895
R^2	0.935386	Adjusted R^2		0.926412

Table 6 shows the endogeneity test result and confirmed that after analyzing GMM estimates there is an insignificant difference of J-statistics value, which clearly shows that the model does not exhibit the endogeneity issues and it is free from error.

TABLE 6: Endogeneity Test Results

	Value	**Df**	**Probability**
Difference in J-stats	1.801420	4	0.7722
J-statistic summary:			
	Value		
Restricted J-statistic	1.801420		
Unrestricted J-statistic	1.37E-37		

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Table 7 shows the Granger causality estimates for ready reference.

TABLE 7: Granger Causality Estimates

Null Hypothesis:	Obs	F-Statistic	Prob.
GDPPC Ψ INBOUND	42	3.40528	0.0726
INBOUND Ψ GDPPC		0.90719	0.3467
IND Ψ INBOUND	42	0.43289	0.5144
INBOUND Ψ IND		2.04131	0.1610
TOP Ψ INBOUND	42	0.04318	0.8365
INBOUND Ψ TOP		2.24036	0.1425
FDI Ψ INBOUND	42	0.67609	0.4159
INBOUND Ψ FDI		0.13553	0.7148
IND Ψ GDPPC	42	8.19013	0.0067
GDPPC Ψ IND		3.44343	0.0711
TOP Ψ GDPPC	42	2.47141	0.1240
GDPPC Ψ TOP		1.42390	0.2400
FDI does Ψ GDPPC	42	2.82642	0.1007
GDPPC Ψ FDI		0.51312	0.4781
TOP Ψ IND	42	0.67413	0.4166
IND Ψ TOP		4.62923	0.0377
FDI Ψ IND	42	3.19684	0.0816
IND Ψ FDI		1.95483	0.1700
FDI Ψ TOP	42	0.00619	0.9377
TOP Ψ FDI		0.09302	0.7620

Note: Ψ shows 'does no Granger cause'.

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The result shows the unidirectional causality that is running from GDP per capita to inbound tourism to support "growth -led tourism" hypothesis in a country. There is a bidirectional causality found between industry value added and GDP per capita, which confirmed that both the variables tend to move with each other in a given time interval. There is a unidirectional causality running from i) industry value added to trade openness and ii) FDI inflows to industry value added to support industry –led trade hypothesis and finance –led industry hypothesis in a country.

CONCLUSIONS

The aim of the study is to explored the main predictors of inbound tourism in Pakistan by suing a time series data from 1975-2017. The GMM estimator is employed to assess the key parameter estimates that is free from possible endogeneity issue. The results show that country's economic growth is the sole predictor that positively influenced inbound tourism, while the causality estimates confirmed the "growth –led tourism' hypothesis in a country. The given results filled the following two major research gaps of earlier studies on the stated theme of the study that is fairly less explored in a given country context, firstly, the study included industry value added, FDI inflows, and trade openness in the regressors list, which covered the country's financial capabilities to attract more international tourists for their safe visitation in the tourists destination point, and secondly, the study used Granger causality test to assess the cause-effect relationship between the candidate variables and confirmed the role of industrialization, FDI inflows, and trade openness in international tourism modeling. The following policy implications have been proposed for long-term continued economic growth with reference of attracting more international tourists in a country, i.e.

i) The continued economic growth is imperative for attracting more international tourists in a country.

ii) Financial openness is desirable to covered financial aspects of international tourists to keep safe visitation without any fear of economic crisis.

iii) Trade liberalization policies offered more public goods to international tourists for increasing their stay in a country.

iv) The high need for progressing towards industrialization process would be helpful to improve financial condition of the country that lead to increase inbound tourism.

These policies are in line with the study's objectives for long-term sustained growth of the country.

REFERENCES

Al-Mulali, U., Fereidouni, H. G., Lee, J. Y., & Mohammed, A. H. (2014). Estimating the tourism-led growth hypothesis: A case study of the Middle East countries. *Anatolia*, *25*(2), 290-298.

Bilen, M., Yilanci, V., & Eryüzlü, H. (2017). Tourism development and economic growth: a panel Granger causality analysis in the frequency domain. *Current Issues in Tourism*, *20*(1), 27-32.

Bouzahzah, M., & El Menyari, Y. (2013). The relationship between international tourism and economic growth: the case of Morocco and Tunisia. Online available at: https://mpra.ub.uni-muenchen.de/44102/ (accessed on 11th January, 2019).

Copyright © 2020 Authors. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Brida, J. G., Lanzilotta, B., Pereyra, J. S., & Pizzolon, F. (2015). A nonlinear approach to the tourism-led growth hypothesis: The case of the MERCOSUR. *Current Issues in Tourism*, *18*(7), 647-666.

Chiu, Y. B., & Yeh, L. T. (2017). The threshold effects of the tourism-led growth hypothesis: Evidence from a cross-sectional model. *Journal of Travel Research*, *56*(5), 625-637.

Ertugrul, H. M., & Mangir, F. (2015). The tourism-led growth hypothesis: empirical evidence from Turkey. *Current Issues in Tourism*, *18*(7), 633-646.

Hatemi-J, A. (2016). On the tourism-led growth hypothesis in the UAE: a bootstrap approach with leveraged adjustments. *Applied Economics Letters*, *23*(6), 424-427.

Irfan, A., Rasli, A., Sami, A., & Liaquat, H. (2017). Role of Social Media in Promoting Education Tourism. Advanced Science Letters, 23(9), 8728-8731.

Nassani, A. A., Zaman, K., Aldakhil, A. M., & Abro, M. M. Q. (2017). War economy and pleasure: assessing the effects of military expenditure on tourism growth. *Quality & Quantity*, *51*(4), 1733-1754.

Raza, S. A., Sharif, A., Wong, W. K., & Karim, M. Z. A. (2017). Tourism development and environmental degradation in the United States: Evidence from wavelet-based analysis. *Current Issues in Tourism*, *20*(16), 1768-1790.

Shahbaz, M., Kumar, R. R., Ivanov, S., & Loganathan, N. (2017). The nexus between tourism demand and output per capita with the relative importance of trade openness and financial development: A study of Malaysia. *Tourism Economics*, *23*(1), 168-186.

Shahzad, S. J. H., Shahbaz, M., Ferrer, R., & Kumar, R. R. (2017). Tourism-led growth hypothesis in the top ten tourist destinations: New evidence using the quantile-on-quantile approach. *Tourism Management*, *60*, 223-232.

Shakouri, B., Yazdi, S. K., Nategian, N., & Shikhrezaei, N. (2017). The relation between international tourism and economic growth. *Journal of Tourism and Hospitality*, *6*(4), 295-301.

Suresh, K. G., & Tiwari, A. K. (2018). Does international tourism affect international trade and economic growth? The Indian experience. *Empirical Economics*, *54*(3), 945-957.

Tang, C. F., & Abosedra, S. (2014). Small sample evidence on the tourism-led growth hypothesis in Lebanon. *Current Issues in Tourism*, *17*(3), 234-246.

Tang, C. F., & Tan, E. C. (2015). Tourism-led growth hypothesis in Malaysia: Evidence based upon regime shift cointegration and time-varying Granger causality techniques. *Asia Pacific Journal of Tourism Research*, *20*(sup1), 1430-1450.

Tang, C. F., & Tan, E. C. (2015b). Does tourism effectively stimulate Malaysia's economic growth?. *Tourism management*, *46*, 158-163.

Tang, C. F., Tiwari, A. K., & Shahbaz, M. (2016). Dynamic inter-relationships among tourism, economic growth and energy consumption in India. *Geosystem Engineering*, *19*(4), 158-169.

UNWTO (2018). 2017 International Tourism Results: the highest in seven years. PR No.: 18003, United Nation World Tourism Organization. Online available at: http://media.unwto.org/press-release/2018-01-15/2017-international-tourism-results-highest-seven-years (accessed on 11th January, 2019).

World Bank (2017). World Development Indicator, World Bank, Washington D.C.

Zaman, K., Moemen, M. A. E., & Islam, T. (2017). Dynamic linkages between tourism transportation expenditures, carbon dioxide emission, energy consumption and growth factors: evidence from the transition economies. *Current Issues in Tourism*, *20*(16), 1720-1735.

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