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INVESTIGATING THE ROLE OF TOURISM IN ECONOMIC GROWTH: EMPIRICAL EVIDENCE FROM PAKISTAN

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Abstract

Introduction. This study aims to explore the impact of tourism along with some other regressors, namely labor force, official development assistance, local investment, and inflation rate on the economic growth rate of the developing country of Pakistan. **Material and Methods.** We used annual time series data over the period from 1980 to 2018 for empirical analysis. Based on the order of integration of data, we employed an Autoregressive Distributed Lag (ARDL) approach. **Results.** Empirical results vindicated a positive relationship between tourism and growth. The official development assistance and inflation rate have shown significantly negative impacts on the economic growth of Pakistan, whereas domestic investment has shown an insignificantly positive impact on the economic growth. **Conclusions.** The empirical findings exhibit that tourism plays a key role in the process of economic growth and development of Pakistan. The study recommends that the management authorities should implement appropriate policies to attract more tourists to improve economic growth of Pakistan. Furthermore, sincere efforts are required to ensure macroeconomic stability through controlling inflation, avoiding reception of foreign aid, and encouraging global investment.

Key words: tourism, economic growth, time series data, Pakistan

Introduction

Around the globe, every developing country is ambitious to embrace higher standards of living. There are a number of factors that help to expedite economic growth. Rapid growth is a path that leads towards prosperity. Economic growth is not a spontaneous phenomenon that can be randomly observed; it demands all the possible measures to augment a country's progress and growth. In a developing country like Pakistan, economic growth has a major role in increasing job opportunities, encouraging education and gross domestic product (GDP) per capita, poverty eradication, political stability and much more. Furthermore, tourism also plays a vital role in boosting up the economic growth of a country. In Pakistan, the tourism sector has a boundless potential. Each part of the country has its own language, culture and traditions that make it the center of attention. It is strongly anticipated that Pakistan can employ about 4.8 million people in different jobs in tourism industry by 2027 [1]. Clancy [2] mentioned that the impacts of global tourism on less developed economies have long been the area of interest to both researchers and policymakers. Katircioglu [3] expounded that there is an unproven question of whether tourism serves as a determinant of growth or if growth actually determines the extent of tourism promotion and development. There is substantial room for further investigation regarding the association between tourism industry and growth.

Tourism activities are a prodigious source of employment and income for countries, which has had a substantial effect on the key economies of the world. Tourism is becoming one of the utmost lucrative growth engines for the worldwide economy. Global tourism receipts are a key source of foreign exchange

coupled with exports income that recompense current account deficits [4]. Moreover, since global tourism contributes to each sector of the economy, budget shortfalls can also be reduced from tax revenues generated through travel- and tourism-related activities. According to International Tourism Highlights Report, tourism creates more than 5 billion U.S. dollars a day. Therefore, total revenues from global tourism, including traveler transport, were 1.7 trillion U.S. dollars in 2018, with over 1.4 billion global arrivals registered throughout the world [5]. Globally, around 20% of the jobs that have been created over the last 5 years have been directly linked to tourism [6].

Considering the aforesaid discussion regarding the significance of tourism pertaining to economic growth, the prime purpose of this study is to examine the impact of tourism on the economic growth of Pakistan. The role of tourism in developed countries like Australia, New Zealand, Japan, Singapore, France and many other nations has been studied extensively. However, there is acute dearth in literature regarding the role of tourism in economic growth in developing countries like Pakistan. In addition, this study also explores the effect of a few noteworthy variables such as labor force, official development assistance, local investment, and inflation on economic growth. Thus, this study comprises a comprehensive research model whereby it examines how the aforementioned variables impact the economic growth of Pakistan.

Pakistan ranked 121st out of 140 countries. The report recommended that to improve its ranking, Pakistan still has to essentially exhibit enhanced competitiveness. Keeping in view the promising scenario of Asia-Pacific region, the aforesaid report acknowledges the consistent efforts undertaken by the Pakistani government for the betterment of its human resources

and labor conditions, where Singapore was ranked as the highest scorer in this domain. Japan has been marked as Asia's most progressive travel and tourism destination recently by observing potential surge in international tourist arrivals and revenue. In Asia-Pacific region, China is considerably placed as the largest travel and tourism economy simultaneously occupying the 13th most competitive international ranking as well. The Philippines has potentially marked its improvement by pushing up its position by four places to rank 75th at a global level. The World Travel & Tourism Council (WTTC) acknowledges Travel & Tourism sector as one of the world's greatest economic contributors in terms of job creation (330 million) and GDP generation (10.3%) worldwide. In the case of Pakistan, Travel & Tourism sector grew by 3.5% in 2019, outstripping the worldwide economy growth of 2.5% for the 9th successive year [7]. The last five years have witnessed the most promising feature of Travel & Tourism sector as the government partner in terms of employment generation (one in every four new jobs). Pakistan, a country blessed with mesmerizing beauty and diverse cultures is heaven for adventure seekers. The breathtakingly picturesque view of Pakistan becomes more vivid in the wake of its frozen lakes, snow-capped mountains, beautiful shores, and tranquil valleys intermingled with the ruins of Mughal monuments and ancient civilizations. Furthermore, the most sacred sites of Hindus, Sikhs, and Buddha are huge attractions for the pilgrims. The role of religious tourism in enhancing the tourism growth has also remained pivotal as thousands of pilgrims keep visiting old Hindu and Sikh temples, most specifically the Guru Nanak. In this regard, opening of the Kartarpur Corridor will eventually ensure the increased influx of religious tourists in Pakistan.

Additionally, the China-Pakistan Economic Corridor (CPEC) is another prospective project through which Pakistan is looking forward to boosting infrastructure and tourism activities between both countries. CPEC is characterized with the development of infrastructural networks and power projects, which will equip the travelers with abundant facilities. The Chinese, being great travelers, love to spend a great deal of their income on tourism. Easy accessibility to Pakistan will encourage them to enjoy its unparalleled hospitality coupled with natural and cultural beauty. Pakistan offers tremendous attraction sites for both locals and foreigners. However, the lack of infrastructure and terrorism proved to be major hindering factors for Pakistani tourism in previous years. The role of previous governments to boost up this potential industry remained quite dismal. No serious and strategic efforts were exerted to develop the positive country image and promote the tourism sector. International travelers hesitated to choose Pakistan, since its image was badly marred as narrow-minded, war-stricken and extremely conservative. The Pakistani hospitality and tourism industry saw 2019 as a big game changer with successful achievement of several milestones. The present government has envisioned the growth and expansion of tourism sector as one of its significant economic indicators with an objective to make this segment potentially able to contribute PKR 01 trillion to the economy by the year 2025. Keeping in line with the strategic frameworks of countries with exemplary tourism models such as Maldives, Sri Lanka, the Philippines and Switzerland, the perspective of responsible, sustainable, and eco-tourism was adopted and incorporated, which ascertained the successful sustainable growth in this sector [8]. The current prime minister of Pakistan has rightly attributed Pakistan as one of the top tourist destinations in the world. Representatives from all over the world accentuated Pakistan's contribution in the rapid growth of tourism during the tourism summit held in Islamabad in 2019. Great facilities

are being offered to foreign tourists by removing administrative obstacles and simplifying procedural issues. On arrival, visa facility would be available for visitors from more than 50 countries. The government's decision to extend E-visa facility to 175 countries would eventually improve the arrival of foreign tourists. Moreover, the government has recently suggested the inkling of a sole tourist visa for all Central Asia Regional Economic Cooperation member states.

In order to synchronize the regions, territories and provinces, the Pakistani government took the initiative to establish the National Tourism Coordination Board (NTCB) in November 2018. From its very beginning, the NTCB has primarily emphasized the strategic guidelines, agenda, and potential prospects for the revitalization of Pakistani perspective by constantly highlighting domestic & international tourism. Instituting national tourism is most likely to maximize investment opportunities for industry development in terms of medical, adventure, religious, and heritage tourism throughout Pakistan. Pakistan Tourism Development Cooperation (PTDC) also launched a refurbished web portal to advertise and promote easy accessibility of tourism information for international tourists. Moreover, in order to facilitate both local and international travelers, Rs.1billion was allocated to Pakistan Tourism Development Endowment fund (PTDEF) to launch a successful marketing and advertising campaign for Pakistan's historical, cultural, and architectural heritage assets. In this regard, aviation sector has come a long way for granting the Tourism Promotion and Regional Integration (TPRI) licenses to encourage and ensure regional and tourism connectivity. The year 2019 also marked the influx of quite a lot of internationally renowned travel bloggers such as a famous American filmmaker and writer, Cynthia Ritchie, a Polish travel vlogger, Eva Zu Beck, a well-known food blogger Mark Weins and an American vlogger Drew Binsky. The experiences of these eminent bloggers opened the vistas of Pakistani tourism for international world by highlighting the hospitality of beautiful Pakistan [9]. Contribution of travel & tourism to Pakistan economy in 2019 is shown in table 1.

Tourism industry is among one of the major industries in terms of its contribution towards global economy. Tourism serves as a key source for regional development in many countries as it encourages new economic accomplishments. Tourism may have a favorable economic impact on the employment gen-

Table 1. Contribution of T&T to Pakistan economy in 2019

Contribution of T&T to GDP	Total T&T GDP = PKR2,285.8BN (5.9% of Total Economy)
Contribution of T&T to Employment	3,881.9 JOBS (000's) (6.2% of Total Employment)
Effects of International Visitor	PKR116.2BN in visitor spend (3.1% of total exports)
Inbound Arrivals 1. United Kingdom 30% 2. United States 16% 3. India 8% 4. China 8% 5. Canada 5% Rest of World 33%	Outbound Departures 1. Saudi Arabia 48% 2. United Arab Emirates 15% 3. Iran 6% 4. Bahrain 4% 5. China 3% Rest of World 24%
Leisure Expenditure 87%	Business Expenditure 13%
Domestic Expenditure 93%	International Expenditure 7%

Source: WTTC [7].

eration, balance of payments, national income, and production. However, it may also have unfavorable impacts, particularly on the environment [10]. In their study, Khalil et al. [11] also expounded that tourism is one of the leading bases of growth, as it generates employment opportunities and stimulates income in both formal and informal sectors. Similarly, fast growth rate in the developed countries enhances foreign travels (business travels), which leads to upsurge in the foreign reserves of those countries. In addition to contribution towards economy of developed countries, tourism plays an equally vital role in stimulating the process of national economic development of many developing nations. Saqib et al. [12] highlighted the impact of tourism on the economic environment of Pakistan in general and Gilgit Baltistan in particular. It was revealed that tourism played a positive role towards socioeconomic development of the region. It was argued that tourism activities resulted in increased employment opportunities for the natives of the region. Moreover, travel and tourism resulted in the development of logistics and infrastructure without causing any substantial damage to the natural environment. Economic performance of Pakistan lacks consistency and stability. After every 4-5 years, there are serious economic problems regarding balance of payments due to sluggish export growth, which is the central reason for low foreign exchange earnings. It is pertinent to mention that international tourism plays a vital role in promoting foreign exchange reserves. Currently, tourism contributes to Pakistan's economy around 5.9% of GDP, which is likely to double in a decade [7].

Pirzada [9] reported that tourism is a rapidly growing economic sector and has seen persistent development and expansion for decades. It is still a labor-intensive sector and provides a large number of employment opportunities across the globe. The motivation of this study is based on the key role played by the tourism industry in the process of economic development. Governments in the developing countries need to support and encourage tourism due to its high multiplier effects in terms of employment formation, improving foreign exchange earnings, having a positive effect on the balance of payment, the generation of income and consequently contributing towards poverty alleviation [13]. There are some studies on tourism-led growth in Pakistan such as Khalil et al. [11] but unfortunately, these prior studies used mis-specified growth equation which offers inconsistent empirical results. Thus, the broad purpose of this study is to determine the impact of tourism on economic growth in the context of Pakistan using annual data from 1980 to 2018. This study used a well-specified empirical model which covers all key factors of growth equation. In our empirical model, the other regressors are education, labor force, official development assistance and tourism, while economic growth by real GDP per capita is used as a regressand. It is anticipated that empirical results of this study will certainly guide policy makers in formulating public policies that would significantly contribute towards tourism-led economic growth of Pakistan.

The rest of the study is organized as follows: Section 2 includes erstwhile empirical studies on the topic under study. Section 3 presents data and empirical methodology. Section 4 interprets empirical results. Section 5 concludes the study.

Review of Literature

Tourism-led growth (TLG) hypothesis has been empirically examined by several prior studies in the context of various countries, for example: [14] for Uruguay; [15] for a panel group of 167 countries; [16] for Laos; [17] for Cook Islands; [18] for Iran; and

[19] for Indonesia; [20] for six countries from the Commonwealth of Independent States.

Many factors including tourism determine economic growth of a country. For example, Shahbaz et al. [21] found that inward FDI and remittance had positive, while inflation and trade had negative effects on the economic performance of Pakistan in the years 1990-2007. Arshad [22] detected that long run relation existed between economic growth, capital formation (fixed), educational enrollment and investment head count ratio between 1972 and 2011. Empirical results exhibit that an increase in education enrollment rate has a substantial influence on economic expansion of a country. Hussain et al. [23] revealed that inflation, exchange rate and interest rate had momentous effects on Pakistan's economy growth from 1980 to 2011. Similarly, Kozhokulov et al. [24] suggested that tourism has a significant positive effect on the society of Issyk-Kul region (Kyrgyzstan). Oh [25] examined the impact of tourism on growth and found that tourism positively contributed to the growth of Korea during 1975Q1-2001Q1.

In the same vein, Khalil et al. [11] evaluated the effect of tourism on income with reference to Pakistan between 1960 and 2006. The prime focus of the study was to evaluate the casual relationship between revenues from tourism industry and growth. The results demonstrated that tourism sector affects economy in two ways. Firstly, the investment in tourism development provides an impetus towards logistics and infrastructural development; secondly, it results in boosting economic growth of the country. Lee and Chien [26] validated the tourism-led growth hypotheses for Singapore during 1978Q-2007Q.

In addition, empirical results of the extant studies indicated that there exists panel causality between tourism promotion and growth in less developed economies. Antonakakis et al. [27] vindicated the tourism-led growth hypothesis for Portugal, Italy, Spain, and Germany between 1995 and 2012. Similarly, Khan et al. [28] found that tourism development significantly improved Pakistan's domestic income from 1995 to 2016. Table 2 sheds light on a few other relevant and noteworthy studies pertaining to the influence of tourism on economy performance in the context of various nations as follows. Thus, the aforementioned studies validate the rationale for postulation of the tourism-led economic growth hypothesis.

Material and methods

Empirical model

The neo-classical theory of growth was introduced by Ramsey [36] and it was further elaborated in the work of Solow [37]. Afterwards, it became the standard in the general form. The theory is concerned with technical change, constant return to scale and interchange between labor and capital with decreasing marginal product. It has three main claims, like an increase in capital labor ratio, which gave a foundation to growth. Subsequently, economies reach a situation where promotion of technology reduces the use of factors. Then, economic growth is accelerated in such a way that the targeted objectives are achieved [37]. The inputs that give outcomes are labor and capital, and technology additionally assists in the exogenous form in the model [38]. This can be written as:

$$(1) \quad Y = f(K, AL)$$

Where Y is output (economic growth), K, L and A represent capital, labor and technology level. The term AL measured the efficiency unit of labor force, which included both the produc-

Table 2. Selected prior studies on the link between tourism development and economic growth

Author (s)	Period, country, Methodology used	Dependent variable	Independent variable(s)	Findings
Ribeiro & Wang [29]	1997-2018, Sao Tome and Principe, Granger causality test	GDP	Tourism, FDI, exchange rate	One way causality from tourism to GDP
Mitra [30]	2001-2017, 158 countries, Dumitrescu and Hurlin	GDP	International tourism receipts, and tourism expenditure	Found positive impact on economic growth
Yazdi [18]	981-2014 Iran ARDL, Granger causality test	Real per capita GDP	Tourist, gross fixed capital formation, physical & human capital.	Found positive impact on economic growth
Habib et al. [31]	2005-2014 Iran, Growth Decomposition Method (GDM)	Growth of GDP per capita	Tourism	Found positive impact on economic growth
Jalil et al. [32]	1972-2011, Pakistan, ARDL	GDP	Tourism, physical capital and international trade.	Found positive impact on economic growth
Chou [33]	1988-2011, 10 transition countries	Per capita real GDP	Domestic tourism spending	Found positive impact on economic growth
Brida et al. [34]	1990-2006 Columbia, Vector Error Correction, Causality	Real GDP per capita	Tourism, and real exchange rates	Found positive impact on economic growth
Fayissa et al. [35]	1995-2004 42 African countries, Fixed-effects, & random-effects	Real GDP per capita	Tourism, capita, physical and human capital, openness, economic freedom index, and household consumption spending	Found positive impact on economic growth

Source: authors' compilation. Note: most of the prior studies used tourism receipts per capita.

tivity and the amount of labor force as determined at the present technology level. A multiple regression model was based on equation (1), which was also used by prior studies including [11; 29; 30; 32; 35], and can be expressed as follows:

(2)

$$RGDP_t = \beta_0 + \beta_1 TOU_t + \beta_2 EMP_t + \beta_3 ODA_t + \beta_4 INV_t + \beta_5 INF_t + \mu_t$$

Where: RGDP = Real GDP per capita; TOU = Tourism (number of tourists per year); INV = Gross (fixed) capital formation as % age of GDP; ODA = Foreign assistance/aid as % age of GDP; EMP = Employment level of labor force; INF = Inflation rate; μ = error term and t for time; β_1 - β_5 are coefficients to be estimated.

The data series used in this study are annual data (US dollar) for real GDP per capita, foreign aid, international tourism, number of arrivals (thousand), domestic investment (as percentage of GDP), and total labor force participation rate, (% of total populace aged 15+) covering the period from 1980 to 2018. We used the GDP (constant U.S. dollars). All the data are gleaned from the World Development Indicators [39], the World Bank, and Economic Survey of Pakistan (various issues).

For empirical analysis, this study first employed the unit root tests to check for the order of integration of the time series data. As per the mix order of integration of the data, we employed the autoregressive distributed lag (ARDL) bound approach to estimate the data [40]. The Granger causality test was applied to learn about the direction of causality, i.e., whether tourism caused GDP or GDP caused tourism. Also, other variables and other diagnostic tests were used. The ARDL method is a suitable method to estimate the long run parameters because the ARDL technique makes it possible to identify whether the variables are stationary, at level in the 1st difference or mutual. The equation (2) can be written in the ARDL bound equation form as below:

(3)

$$\Delta \ln RGDP_t = \beta_0 + \sum_{i=1}^n \beta_{1i} \Delta \ln RGDP_{t-i} + \sum_{i=0}^n \beta_{2i} \Delta \ln TOU_{t-i} + \sum_{i=0}^n \beta_{3i} \Delta \ln INV_{t-i} + \sum_{i=0}^n \beta_{4i} \Delta \ln ODA_{t-i} + \sum_{i=0}^n \beta_{5i} \Delta \ln EMP_{t-i} + \sum_{i=0}^n \beta_{6i} \Delta \ln INF_{t-i} + \alpha_1 \ln RGDP_{t-1} + \alpha_2 \ln TOU_{t-1} + \alpha_3 \ln INV_{t-1} + \alpha_4 \ln ODA_{t-1} + \alpha_5 \ln EMP_{t-1} + \alpha_6 \ln INF_{t-1} + \varepsilon_t$$

Stationarity properties of the data

The Augmented Dickey-Fuller (ADF) test for unit root can be used to check the integration order of data of each variable. The ADF test introduced by [41] is useful and appropriate to check the stationarity of data. The equation of the ADF test is given below:

(4)

$$\Delta Y_t = \alpha_0 + \gamma Y_{t-1} + \alpha_1 t + \sum_{i=1}^p \beta_i \Delta Y_{t-i} + e_t$$

Empirical Results and Discussion

The results of unit root test are summarized in table 3. According to the results, real GDP, tourism, investment, and employment are non-stationary at level and turn out to be stationary after the first difference. Therefore, their integration order is 1. On the other hand, official development assistance and inflation are stationary at I(0) and hence their order of integration is zero. This mixed order of integration motivated us to use ARDL instead of Johansen test.

Table 3. Results of ADF test

Variable	ADF Test		Decision
	Level	First Difference	
RGDPt	-3.535	-3.601**	I(1)
TOUt	-2.068	-6.215***	I(1)
INVt	-2.438	-5.529***	I(1)
ODAt	-4.364***	-6.990***	I(0)
EMPt	-2.239	-7.028***	I(1)
INFt	-4.635***	-6.601***	I(0)

Asterisks ** and *** show 1% and 5% level of significance, respectively.

Bound testing result

Bound test to co-integration results are presented in table 4 and reveal that the F-statistics views judgment with the critical value described. Here, the F-statistics as 4.627 that is calculated ($K = 5$) tops the upper value at 5 percent significance level.

Table 4. Bound test to co-integration analysis

Test Statistics	Value	K
F-Statistics	4.627	5
Critical value bounds		
Significance	I (0)	I (1)
10%	2.26	3.35
5%	2.62	3.79
2.5%	2.96	4.18
1%	3.41	4.68

Estimates of ARDL model

Empirical long and short run results of ARDL approach are given in table 5. The coefficient of regressors indicates the change in the response variables which are tourism, domestic investment, official development assistance, employment level and inflation rate.

Tourism is a fast-growing sector of most economies in the world. In developing countries, where other problems like trade deficit, unemployment, and limited foreign reserve exist, the developments in the tourism sector play a positive role in the economy. According to the results of this study, tourism has a positive impact on growth, and this impact is statistically significant at the level of 10 percent. The coefficient of tourism which is 0.042 implies that a 1% upsurge in tourism development leads to 0.042% rise in growth. Results regarding the positive link between tourism and growth are matching with the results of [3, 18, 29, 42, 43].

Table 5. Long run and short run estimates of ARDL approach

Variables	Coefficient	Std. Error	t-ratio	p-values
Long-run estimates				
TOU_t	0.042**	0.019	2.247	0.034
INV_t	0.017	0.042	0.412	0.683
ODA_t	-0.028***	0.014	1.995	0.057
EMP_t	-0.086*	0.027	3.096	0.004
INF_t	-0.022*	0.005	3.873	0.000
Constant	-0.281	0.230	1.216	0.235
Short-run estimates				
TOU_t	0.042***	0.021	1.975	0.059
INV_t	0.017	0.044	0.391	0.698
ODA_t	-0.006	0.009	1.117	0.274
EMP_t	0.086**	0.031	2.767	0.010
INF_t	-0.009	0.008	1.103	0.280
ECM (-1)	-0.998*	0.216	4.603	0.000
R ² : 0.569 Prob. (F-Stat): 0.014 D W Stat: 2.155				

Asterisks *, ** & *** symbolize 1%, 5% and 10% significance level, respectively. Response variable is real GDP.

The impact of foreign assistance on aggregate output has been an issue of intense debate. Foreign aid is necessary for poverty reduction especially in developing countries if utilized in the true sense. Previous studies provide mix empirical results on the impact of foreign aid on economic growth. In our study, the empirical results on foreign aid (ODA) reveal a negative impact on growth, indicating that receiving foreign aid discourages economic growth.

The economic literature provides a mixed debate on long run relationship between inflation and growth. Inflation has affected the economic growth of Pakistan economy both negatively and significantly. For example, [44] and [45] noted a negative relationship between growth and inflation, while a positive relationship between these variables was obtained by [46]. Our results are consistent with the results of [44, 45].

Investment is also one of the central determinants of economic growth and is claimed to be an important source for job creation in economy [47]. In this study, domestic investment impacted economic growth positively; however, this relationship is not different from zero significantly. The possible reason is that Pakistan still lacks capital for the acceleration of economic growth. Employment level by the labor force has not backed positively to the economic growth of Pakistan. The coefficient of labor force calculated in the model is -0.086, explaining that 1% increases in labor force adversely affect the economic growth by 0.086%. The negative relationship between employability of labor force is consistent with Tahir and Azid [48], who also reported a negative relationship between labor force and economic growth. It could be because employability of labor force is not enough for moving economic growth positively.

Short run ARDL results

Following the estimation of error correction coefficient (ECM), this study finds that tourism has a productive correlation with growth, which is according to our expectation. Employment level of the labor force also maintains its negative impression on economic growth in the short run. Similarly, investment, ODA and inflation are insignificantly related with economic growth in the short run. The term error correction entered the model with expected negative coefficient and further it is significant as well, depicting a long run relationship between the variables. The coefficient of ECM given in the table is -0.998, which implies about 99% of the disequilibrium adjusting back to long run equilibrium in the current year. The value of R² is 0.618, which shows the model is explicated by 61% by regressors in the regressand.

The Granger causality test results based on Engle and Granger [49] are shown in table 6. The results reject the null hypothesis that "tourism does not cause GDP" at the 5% level of significance. This result vindicates that tourism caused GDP at the 5% level. The unidirectional significant causal relationship between tourism and GDP running from tourism to GDP during the selected period indicates the validity of the tourism-led growth hypothesis for Pakistan. The Granger causality results of this study are similar to those of [15, 17, 19].

Diagnostic Tests

It was revealed through the results of diagnostic tests that autocorrelation and heteroscedasticity did not exist in the model of the study. The outcomes of the tests are presented in table 7. The Ramsey RESET test was applied for specification of the model. It revealed that there is no mis-specification in the model given in table 7.

Table 6. Results of Pairwise Granger causality tests

Variables	GDP _t	TOU _t	INV _t	ODA _t	EMP _t	INF _t
GDP _t	–	2.92191 (0.0671)	2.85480 (0.0728)	2.17910 (0.1302)	3.83378* (0.0325)	0.92507 (0.4072)
TOU _t	5.05880* (0.0126)	–	0.68759 (0.5103)	0.79293 (0.4615)	1.97387 (0.1560)	1.70013 (0.1993)
INV _t	3.88397* (0.0235)	0.99784 (0.3802)	–	0.22827 (0.7972)	2.70976 (0.0818)	1.63082 (0.2116)
ODA _t	0.20581 (0.8151)	1.02031 (0.3723)	2.92296 (0.0682)	–	2.38909 (0.1079)	1.10782 (0.3426)
EMP _t	2.12416 (0.1366)	1.41948 (0.2571)	1.96743 (0.1564)	0.58116 (0.5650)	–	0.45770 (0.6368)
INF _t	4.73178* (0.0123)	1.27709 (0.2931)	2.45385 (0.1020)	0.39026 (0.6801)	0.34290 (0.7123)	–

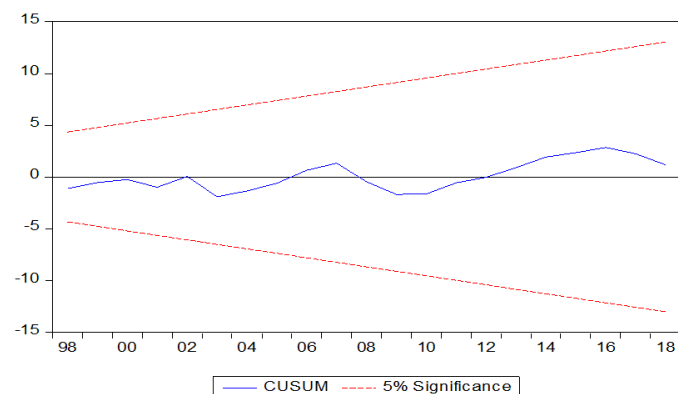
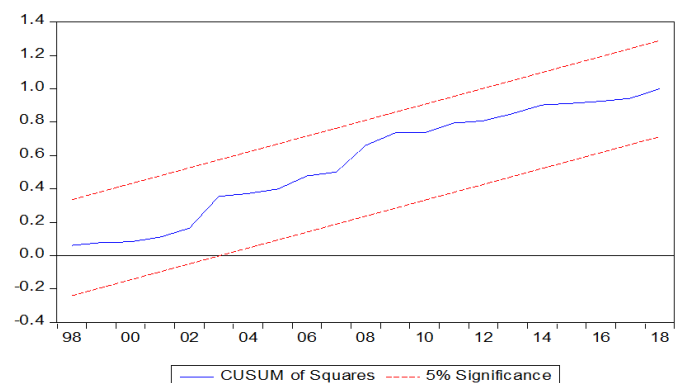
Asterisk * shows 5% level of significance. P-values are in parenthesis.

Table 7. Results of Breusch-Goldfrey / Serial correlation L.M. and Breusch-Pagan-Godfrey Ramsey RESET Test

Breusch-Goldfrey/ Serial correlation L.M.test			
F-Statistics	0.779	p-value	0.470
Obs*R ²	2.382	p-value	0.303
Breusch-Pagan-Godfrey test			
F-Statistics	1.987	p-value	0.077
Obs*R ²	17.158	p-value	0.103
Ramsey RESET Test			
Description	Value	Df	p-value
t-Statistics	0.552	23	0.586
F-Statistics	0.304	(1,23)	0.586

Model stability test

The cumulative sum of recursive residuals (CUSUM) and CUSUM of square (CUSUM (SQ)) tests proposed by Brown et al. [50] were employed to test the stability of the long-run coefficients, and the results are shown in figures 1-2. These results reveal that residual of the model in the critical region confirms the long-run associations between variables and thus exhibits the stability of the coefficient.

**Figure 1.** CUSUM**Figure 2.** CUSUM (SQ)

Concluding Remarks

Pakistan is naturally rich in gorgeous natural sceneries, and due to the diversity of climate, very pleasant tourist destinations can be found here, e.g. Swat, Murree, Gilgit, Neelum Valley, Swat Valley, Hunza Valley, Phander Lake, Broghil Valley and Kalash Valleys. Other attractions include snow-covered peaks (i.e., K-2 is the 2nd and Nanga Parbat is the 6th highest peak in the world), natural lakes (i.e., Saiful Mulk in Kaghan valley, Maho Dand in Kallam, Sat Para and Kachura Lakes in Skardu), historical places worth seeing, old monasteries, monuments of Buddhism, Moen-jo-Daro, Harappa and Taxila.

The central aim of this study is to investigate the impact of tourism on economic growth of Pakistan between 1980 and 2018. After the ADF unit root test, we employed the ARDL bound test approach. The empirical results reveal that tourism and economic growth have significantly positive long run associations. Empirical results also show that foreign aid and inflation rate have a negative influence on growth of Pakistan. Although domestic investment positively impacted economic growth, this link was found to be statistically insignificant. In the short run, this study finds sound evidence in favor of a positive relationship between tourism and economic growth of Pakistan. However, employment adversely impacted economic growth in the long run as well as in the short run. Likewise, the other control variables, namely foreign aid, inflation and investment have an insignificant impact on economic growth in the short run.

The empirical findings suggest that policy makers need to prepare policies that can enhance the inflow of tourists to Pa-

kistan in order to accelerate economic growth. Macroeconomic stability in the form of moderate inflation shall be ensured by policy makers as higher inflation creates uncertainty and hence economic activities are adversely affected. Domestic investment shall be increased as it serves as the engine of economic growth, as discussed in the growth theories. The insignificant impact of domestic investment on growth could result from the lack of domestic investment in the economy. Besides, more employment opportunities for the growing labor force are needed to be created. Currently, economy of Pakistan is experiencing jobless growth. Hence, policy makers are suggested to investigate the matter and come up with workable proposals for generating new employment prospects for the national labor force.

Therefore, it can be concluded that tourism sector in Pakistan has the potential to contribute towards long run economic growth significantly. Therefore, Pakistan should focus on the establishment of tourism infrastructure, facilities and sites, etc. that can enrich tourists' choice of Pakistan's destinations. Empowering tourism environment will enhance investors' interest in the tourism industry of Pakistan. Thus, a clear vision encompassing prudent and effective policies is required in order to encourage the tourism sector development and thereby expanding the economic growth of the country. Pakistan is endowed with huge, beautiful opportunities attracting international tourists. Promotion of tourism sector will yield multifaceted and multidimensional benefits for the society. Investment in tourism sector would assist in the infrastructural development as it would lead towards building airports, highways, and other transportation networks, establishing retail markets, construction of hotels and restaurants and provision of other services relevant to travel and tourism sector. Resultantly, there would be more employment opportunities for the natives; and revenues from tourist arrivals could be spent on provision of health, education, housing, and other basic facilities. Hence, there would be a direct impact on the standard of living and socio-economic status of residents of the region/nation where tourism-related investments are injected. Similarly, international tourists would not only play their part in expediting the economic growth of the host country but also utter positive word of mouth to uplift the country image and enhance its reputation as a global tourist destination.

Keeping in view the potential of tourism in socio-economic growth of Pakistan, the incumbent government of Pakistan has made significant efforts to promote tourism since 2018. Investments have been made in the development of infrastructure to ensure that tourists can reach their respective destinations conveniently by road as well as by air. Similarly, business licenses have been issued to many local as well as international firms to provide lavish shopping, accommodation, and dining facilities to local as well as foreign tourists. The government of Pakistan has also spent extensively on curbing terrorism to promote the country image as a secure and safe destination for tourists. In addition to the development of tourist infrastructure in northern areas, the government has also promoted religious tourism for domestic as well as foreign tourists. The establishment of markets and infrastructure around Kartarpur Corridor is a prime example in this regard. Similarly, multiple initiatives linked with China Pakistan Economic Corridor (CPEC) projects have contributed towards the development of many new tourist destinations. The establishment of Gawadar Port is one of the major projects linked with CPEC which is expected to become a new international trade route in the future. It is anticipated that Gawadar could become a tourist destination like Dubai after Gawadar port becomes fully operational. Similarly, China's One

Belt One Road initiative which links Pakistan to China through Karakoram highway has opened many avenues for tourism in Pakistan. Moreover, the government of Pakistan facilitates international bloggers to promote positive image of Pakistan as a world class tourist destination. The government has a paramount focus on promotion of tourism at local, regional, and national levels through domestic as well as international investment.

More importantly, the government of Pakistan at national as well as at provincial levels needs to encourage tourism culture and thereby promote tourism industry with necessary advertising and launch an e-portal for tourist reservations. Substantial basic facilities including sound and safe hotels/motels/restaurants, comfy environs, and appropriate transportation amenities should be provided to tourists, particularly international tourists. The Pakistan Tourism Development Corporation (PTDC) department needs to play its due role in promoting tourism industry. Furthermore, to promote tourism at regional and local levels, the government should allocate appropriate budget to develop the infrastructure and recreational points in the areas rich in natural and cultural aspects. The government should create business opportunities for the host/local communities in order to attract tourists' arrivals and spending, thus raising the socioeconomic standards of living of the host/local communities.

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