Terrorism and International Tourism Nexus: Evidence from Pakistan

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ABSTRACT

The association among terrorism and tourism is crucial from the macroeconomic perspective as tourism is considered as a vital sector regarding developmental impacts. This analysis conducted to extract the influence of terrorism on tourism in Pakistan, expending the latest dataset and incorporating some additional factors like FDI, human capital, and economic growth for 1980-2016, using ARDL bounds test. The evidence shows that terrorism has an inverse relationship with tourism in the long run that is statistically significant. Economic growth, FDI, and human capital are the increasing factors of tourism. Terrorism may cause to create insecurity and devastating recreational places. There is a need to resolve the issue of terrorism to enhance tourism in Pakistan. It may help tourist authorities to understand the nature of the impact of terrorism on the tourism industry in Pakistan.

Keywords: Terrorism, Tourism, ARDL, Human Capital, Economic Growth

JEL Classifications: L83, Z32, J24, F43

1. INTRODUCTION

The tourism industry has a significant contribution to economic development. It helps the people to advance their living standards, and it gives a chance to a nation to improve its repute over the world. Tourism is confronting various issues that deteriorate its contribution to economic development. Moreover, due to numerous issues, including political unrest and terrorism, individuals are not ready to make visits on the risk of security.

Many factors are affecting the survival and growth of the tourism industry, for example, economic growth, FDI, human capital, terrorism, and many others. Economic growth affects tourism through different channels, including the development of infrastructure, facilitating tourism through increased individual’s earnings, enabling them to spend more on leisure, relaxation, and tourism progress. Human capital is considered as an essential asset, contributing primarily to support and sustain tourism.

Foreign direct investment (FDI) in tourism (including different developmental construction projects of hotels and resorts, recreational facilities, and infrastructure development at the city and regional level) contributes to the economic well-being and the development of tourism industry itself.

Terrorism can cause ripple effects through different channels in the economy, generating negative impacts regarding economic development, loss of infrastructure and lives, and causing uncertainty in the market. According to the global terrorism database, five countries have the highest number of deaths from terrorism, which are Iraq, Afghanistan, Syria, Nigeria, and Pakistan.

International tourism is the primary factor for many large and small economies in the world, which depends to a large extent on tourism income like a lively reservoir of foreign exchange earnings. Security and peace are the main determinants to attract...
tourism. Pizam and Fleischer (2002) concluded that international tourism depends on security.

Additionally, to these direct benefits, in many underdeveloped countries, terrorism is a root of FDI. Terrorism can damage tourism by reducing tourist arrivals. Over time, a significant reduction in FDI is the consequence of an increase in terrorist attacks. Furthermore, to these direct costs and the indirect cost of terrorism, extra advertisement costs needed to attract more tourists, the cost of rebuilding the damaged tourism infrastructure and the security costs to reduce terrorist threats are also there.

FDI is pivotal for under-developed countries, and terrorist attacks adversely affect it. It is more harmful to developing nations as compared to developed ones (Sandler and Enders, 2005). Pakistan experienced export commodities due to high demand in 2011. In the period of July–April 2010-11, there was an increase in exports merchandise until $20.2 billion while earnings $15.5 billion. In 2011 fabric and food exports shared a bulk contribution in the economy.

Many studies have manifested that in economic growth, human capital is the most vital component. The set of human capital is the competence, cognition, abilities, and acquirement incorporated by individuals and acquired through training, medical and education (Schultz, 1961; Becker, 1992).

International tourism creates jobs and revenue in an economy. There is an alarming situation of tourism in Pakistan. In 2013, tourism served 3.1% of GDP in the economy, according to the report of world journey and tourism administration.

Pakistan is confronting severe trouble of terrorism which affects international tourism. Afterwards, the consequences of 9/11, Pakistan made up the mind to join the warfare on terrorism. The nation has endured enormous economic and humanistic losses because of the battle against terrorism. Tourism is one sphere that is affected by terrorism. Terrorism also wrecks foreign direct investment. More funds have been allocated to fight terrorism instead of spending it on general development projects and tourism-related infrastructure. Due to terrorism, Pakistan has faced a decline in tourist activities.

The purpose of conducting research is to investigate the most recent impact of terrorist attacks on the tourism industry in Pakistan. Tourism is not only a single factor that affects economic growth but FDI, human capital, and many other variables that affect economic growth through different channels. It is an effort to analyze the most recent obscure in the country and try to find out the consequences of terrorism. It will provide new dimensions to the current studies which explore the consequences of terrorism on various social and economic factors.

This study is divided into six sections, i.e. summary of the literature review (Section 2), methodology (Section 3), data and variables (Section 4), results and discussion (Section 5), the conclusion is presented in the last section.

2. LITERATURE REVIEW

The linkage between terrorism, economic growth, and tourism have been reviewed widely worldwide as well as in the case of Pakistan. Some studies are in favor of the conventional view that terrorism affects economic growth negatively, while some others found no link between them. Likewise, tourism and terrorism also have a negative relationship. Many other factors affect economic growth through terrorism. This chapter presents a review of the literature carried worldwide as well as in the case of Pakistan. This section is further divided into three sub-sections.

Tourism is the fast-growing industry that attracts the other sector of the economy, like FDI and GDP. Terrorism adversely impacts tourism that affects FDI, economic growth, and tourism. There exist a casual association between tourism and terrorism, which are further described in subheadings. Like 2.1 presents linkage between tourism with economic growth, 2.2 depicts tourism with terrorism, and 2.3 illustrates the relationship between tourism and FDI.

2.1. Tourism and Economic Growth

Archer (1995) analyzed the significance of tourism for the economy of Bermuda for three selected years of 1985, 1987, and 1992 to make the comparison of tourism concerning incomes, exports, public sector, and employment. They employed the input-output model, and results revealed that employment depends upon tourism along with the direct measures taken by private and government sectors.

Gunduz and Hatemi (2005) employed bootstrap causality test for the analysis of tourism-growth hypothesis for Turkey by investigating data from 1963 to 2002. Moreover, consumer price indices, GDP, tourist arrivals, and foreign exchange rate variables were also investigated. Results found that one-way directional causality prevails in the case of tourism and economic growth.

Eugenio-Martin et al. (2004) probed the relationship among the tourism and economic growth in the case of Latin American countries from 1985 to 1998 by using Arellano-Bond estimator and generalized least square for panel data approach. According to results, for middle and lower-income countries, the tourism sector is tolerated of economic growth without being influential in the case of developed countries. The results showed that middle-income nations need high levels of social developments such as health service and high GDP per capita, while low-income counties need education, infrastructure, and skills development to attract tourists.

Fayissa et al. (2008) found that the tourist industry affects the GDP of 42 African countries. Ekanayake and Long (2012) also found an association between tourism and economic growth, and Kreishan (2010) established one side causality from tourism to growth in Jordan.

Chou (2013) determined the cause and effect connection among tourism expenditures and growth within ten countries in transition from 1988 to 2011 by applying the panel Granger
Causality technique to establish the association within tourism expenditure and growth. Results showed that Cyprus, Slovakia, and Latvia have a direct relationship, while different association for Poland, Czech Republic, Estonia, and Hungary was found among tourism expenditures and economic growth. Raza and Jawaid (2013) examined the effect of terrorism on tourism in Pakistan from 1980 to 2010 by using ARDL. The results established that terrorism harms tourism in short and long-term periods.

2.2. Tourism and Terrorism

Dowlng and Hiemenz (1983) studied the association among foreign aid, domestic saving, and economic growth in the case of 13 Asian countries by employing pooled data and come up with that Foreign Aid has direct and significant relation to growth. Enders and Sandler (1991) tested the causality among transitional terrorism and tourism in the case of Spain by covering monthly data from 1970 to 1988. The study utilized a vector autoregressive (VAR) methodology for analytical purposes. The study concluded that terrorist attacks had a significant inverse effect on the significant number of tourists visiting Spain. Results also confirmed that one-way directional causality from terrorism to tourism.

Drakos and Kutan (2001) probed the territorial effects of terrorism on tourism from 1991 to 2000 in Greece. Results initiated that terrorism adversely affects tourism in the Mediterranean countries, including Israel and Turkey, while the study did not find steady support for the importance of tourism in Greece. Chen and Noriega (2004) analyzed the effect of terrorism, prediction of study module, and pupils regarding security and protection on tourism through individual surveys inquiring interviews about their prediction regarding the impact of the September 11 attacks. The result showed that members of faculty had faced the more experience the change of their life, activity choices, and journey decisions than students.

Masinde et al. (2016) established a connection between terrorism and tourism in Kenya by investigating data from 1994 to 2014. ARDL and VECM were employed in the study for analytical purposes. Moreover, the Granger Causality test was used to determine the direction of causation. According to results, no long-run link among terrorism and tourism was found in Kenya. Terrorism was not found to be granger, causing tourism, while short term effect indicated that terrorism adversely affects tourism in Kenya. Khan and Rasheed (2016) conducted a relationship between terrorism and tourism infrastructure in Pakistan’s case by covering time duration from 1972 to 2013. The results showed that terrorist attacks have negatively affected tourism, while the other two variables, GDP and infrastructure have a direct effect on tourism. The findings suggested that to enhance tourism government should take steps to defeat terrorism while to make any other effort to enhance tourism.

2.3. Tourism and FDI

Craigwell and Moore (2008) examined the link between FDI and tourism for 21 small island developing states (SIDS). The annual observation was used in this study from the period of 1980 to 2004. The study applied a panel causality test to detect the link between tourism and FDI. Tourism, FDI, GDP, relative price, and relative foreign income were the main explanatory variables in the study. The result of homogenous and instantaneous causality tests suggested that two-way causal linkages among the variables prevail.

Ivanovic et al. (2011) concluded that FDI had not brought direct effects to economic growth for 1996 to 2010 in Croatia. The findings of Shahbaz et al. (2012) showed that terrorism has a substantial inverse impact on FDI in Pakistan. The results detected that because of the number of terrorist incidents, and foreign investors are not interested in endowing currency in Pakistan. Salleh et al. (2011) analyzed the long term and causal linkage among tourism growth and FDI among selected Asian countries like China, Singapore, Hong Kong, Thailand, and Malaysia. The study covered the data from the duration of 1978 to 2008 taken from the world tourism organization. In the short term, the research established that Hong Kong has a two-way connection between FDI and tourism. A one-side linkage from tourism to FDI for Thailand and Malaysia and no relation found between these two variables for China and Singapore.

Muckley (2010) estimated the economic price of terrorism concerning FDI and tourism in Northern Ireland. The data set covered the period from 1970 to 2007. The analyses indicated that initiatives relying on the tourism sector as well as foreign direct investment produce consequences of terrorism imputed a minimum economic price. Moreover, findings showed that in Northern Ireland, economic lower bound on the cost of terrorism.

3. THEORETICAL FRAMEWORK AND METHODOLOGY

Terrorism often leads to the collapse of education infrastructure, worsening school results, low enrollment rates, and also destroys the human capital of a country. It limits the trade and industrial action that restrain economic growth. One of the wealthiest industries is tourism for foreign earnings. Terrorism may damage tourism through various extensions affecting the economic growth of a country. FDI is an essential element of investment activity in most underdeveloped countries, and any reduction in foreign investment will shrink economic growth. Terrorism also has an inverse effect on FDI due to the risk.

The theoretical framework and methods are discussed in this section, which is further divided into two sections. Section 3.1 presents the theoretical framework and econometric model in which factors are discussed, affecting tourism and economic growth, and section 3.2 depicts the methodology.

3.1. Theoretical Framework and Methodology

The research tries to examine the effect of human capital (HC) on tourism as it attracts tourism. Human capital is an indispensable factor for production. It performs a fundamental
factor that involves in the production process. Barro and Lee (1993) used human capital as a proxy of the mean number of annual schooling of the inhabitants over 25 years. Human capital is essential for the employment of regional people in tourist actions. It may consist of different types of skills, such as language, hospitality, transportation, and catering, etc. (Eugenio-Martin, 2004).

\[
Tourism = f (Human \ Capital) \quad (1)
\]

Terrorism (number of attacks) adversely affects the tourism and infrastructure (transportation, accommodation, and communication) of an economy. A tourist is a rational person who allocates their income between commodities which he avails in a tourist visit. They must make a comparison between different choices and chose the combination in which they maximize satisfaction within the lowest cost. These combinations may consist of foreign exchange considerations, costs, and risk threats. Other things being the same, if risk threat more in a place, they will choose another combination in which has less risk. Terrorist attack affects the tourism industry.

\[
Tourism = f (Human \ Capital, \ Terrorism) \quad (2)
\]

Economic growth plays an indispensable role in tourism, as to enhance in income is a positive change in tourism. FDI inflows attract the tourism industry of a country. However, terrorist attacks may cause to reduce the FDI inflow. In developing countries, FDI is an indispensable part of the investment activities.

\[
Tourism = f (Human \ Capital, \ Terrorism, \ Economic \ Growth, \ Foreign \ Direct \ Investment) \quad (3)
\]

\[
TOUR = f (HK, TERR, EG, FDI) \quad (4)
\]

In this second model, tourism is the dependent variable, while human capital, terrorism, Economic Growth, and FDI are independent variables. By converting Eq. (4) into Cobb Douglas form, it follows as

\[
TOUR_i = AHK_i^{\beta_1} TERR_i^{\beta_2} EG_i^{\beta_3} FDI_i^{\beta_4} \quad (5)
\]

By taking the natural log of Eq (5)

\[
\ln (TOUR) = \ln (A) + \beta_1 \ln (HK) + \beta_2 \ln (TERR) + \beta_3 \ln (EG) + \beta_4 \ln (FDI) \quad (6)
\]

\[
\ln (TOUR) = \beta_0 + \beta_1 \ln (HK) + \beta_2 \ln (TERR) + \beta_3 \ln (EG) + \beta_4 \ln (FDI) \quad (7)
\]

where, \( \ln = \text{Natural log}; \ TOUR = \text{Tourism}; \ HK = \text{Human Capital}; \ TERR = \text{Terrorism}; \ EG = \text{Economic Growth}; \ FDI = \text{Foreign direct Investment}; \ \beta_0 = \text{Intercepts and} \ \mu = \text{Error term} \)

3.2. Methodology

To establish the linkage between tourism concerning terrorism, tourism, economic growth, and FDI, ARDL co-integration approach is utilized for short and long-run dynamics. First, the unit root test is applied to assure the order of integration. If more or fewer variables are integrated at level and rest of the variables at the first difference, the ARDL bounds testing technique of co-integration is used. Different tests are applied to crack the reliability of the results for Pakistan over 1980-2016.

3.2.1. Unit root test

Before proceeding co-integration, the fundamental part is to determine the integration order of the variables used in the study. So, firstly augmented Dickey-Fuller (ADF) test is applied. The equations are as follows,

\[
\Delta Y = \alpha + \gamma Y_{t-1} + \delta + \epsilon_i \quad (8)
\]

Equation (8) represents the ADF test with an intercept.

\[
\Delta Y = \alpha + \beta + \gamma Y_{t-1} + \delta + \epsilon_i \quad (9)
\]

In Equation (9), unit root with trend and intercept

\[
\Delta Y = \gamma Y_{t-1} + \delta + \epsilon_i \quad (10)
\]

In equations 9 and 10, the unit root test without intercept and trend is presented.

\[
H_0: \ \gamma = 0 \quad \Delta Y = Y_{t-1}
\]

\[\epsilon_i = \text{Error Term}\]

In this test, the statistical value, rejection of the null hypothesis in case of larger value than critical, and take the alternative is presented. It means variables are integrated on order 1(0). In case if the statistical measure is not greater than the critical value, the hypothesis of unit root cannot be rejected. It means a series of variables not stationary at levels. To make the series stationary, first difference as \( Y_{t-1} \) should be taken

3.2.2. ARDL co-integration test

ARDL model (1999) brought in and additionally lengthened by Pesaran et al. (2001), and it approaches with individuals’ co-integration. It is the leverage of the ARDL approach that does not accept all variables to be I(1) or not all variables I(0) it means all variable stationery at order 1. As the Johansen model and it is still pertinent if some variable I(1) and some are I(0) in our data set. To analyze time-series data in a different order, we employed ARDL bound testing for co-integration and substituted to co integration model for Engle and Granger (1987).

The ARDL bound test has certain econometric benefits in comparison to other methods of co-integration. The ARDL bound test is positioned on F-statistics (Wald test). The asymptotic distribution of the Wald test is inferior, concealed by the null hypothesis of no co-integration among the variables. Pesaran et al. (2001) gave two critical values for the co-integration test.
If the calculated F-statistics is larger than the upper bound critical value, then the null hypothesis is rejected. If the F-statistics under the lower bound critical value or between lower and upper bounds, then there is no co-integration exist among the variables.

The following study utilized the ARDL model to inquire about the long and short term linkage among indicators. The ARDL model for co-integration may be written as follows:

For short-run, Eq.11,

$$
\Delta \ln(TOUR)_t = \beta_0 + \sum_{i=0}^{p} \beta_i \Delta \ln(HK)_{t-i} + \sum_{i=0}^{p} \beta_i \Delta \ln(TERR)_{t-i} + \\
\sum_{i=0}^{p} \beta_i \Delta \ln(EG)_{t-i} + \sum_{i=0}^{p} \beta_i \Delta \ln(FDI)_{t-i} + \delta_{1i} \ln(EG)_{t-i} + \\
\delta_{2i} \ln(TERR)_{t-i} + \delta_{3i} \ln(FDI)_{t-i} + \mu_i 
$$

In Eq.11, Α is the first difference operator, ΔHK, refers to the natural log of human capital, ΔTERR, refers to the natural log of terrorism, ΔEG, refers to the natural log of economic growth and ΔFDI, refers to the natural log of foreign direct investment. Moreover, β, δ, ………. δ tell about the short term changing of the model while parameters δ1, δ2, δ3, δ4 represent the long-run association. The null hypothesis is

$$
H_0: \delta_1=\delta_2=\delta_3=\delta_4=0 \\
H_1: \delta_1\neq\delta_2\neq\delta_3\neq\delta_4
$$

Rejection of the null hypothesis (H0) tells the presence of cointegration.

If there exist co-integration in the model then long term connection would be estimated by the following equations:

For long-run equation (12)

$$
\ln(TOUR)_t = \beta_0 + \sum_{i=0}^{p} \beta_i \ln(HK)_{t-i} + \sum_{i=0}^{p} \beta_i \ln(TERR)_{t-i} + \\
\sum_{i=0}^{p} \beta_i \ln(EG)_{t-i} + \sum_{i=0}^{p} \beta_i \ln(FDI)_{t-i} + \mu_i 
$$

5. RESULTS AND DISCUSSION

The following section contains empirical determinations of the model examining the linkage among the mentioned indicators. ADF Unit root test, ARDL bound test, tests of residual and stability diagnostics are being employed.

5.1. Outcomes of ADF Test

ADF test is being employed for unit root to find the order of integration of the variables. In this ADF test, unit root results not only for the intercept but also consider the unit root results with the trend and intercept, and without trend and intercept for all variables are considered. Results are depicted in Table 1.

The results detected that four out of five variables are stationary at I(1) with intercept, while only TERR is stationary at the first difference with intercept and trend. When we have applied ADF without trend and intercept, results show that all variables are integrated at I(1) except FDI.
5.2. ARDL test for Co-integration

5.2.1. ARDL bounds F-test

ARDL bounds test represents the refusal of the null hypothesis and admits the alternative. In Table 2, F-statistics is 10.7288, which is higher than the critical value at 1%, 5%, and 10%. So there exists the long run nexus among tourism, human capital, terrorism, economic growth, and FDI.

5.2.2. Outcomes of ARDL Co-integration

Table 3 represents the results of ARDL co-integration for the short and long run. In this model, tourism is treated as the dependent variable. In the short run, results reveal that human capital and terrorism have a direct relationship with tourism, while economic growth and FDI has an inverse impact on tourism.

The long-run results of ARDL exposed that human capital directly integrated with tourism and statistically significant. One percent rise in human capital will affect tourism by 2.4828% in the long term. The result of human capital is consistent with Siddique et al. (2017).

Coefficient of terrorism has an inverse and statistically substantial effect on tourism. It means one percent enhance in TERR would bring 0.0154% decrease in tourism. The results are in the lines of the findings of Enders and Sandler (1991), Masinde et al. (2016), and Drakos and Kutan (2001). Terrorism may cause to create lack of hotel, security, electricity, and devastating recreational places. It also causes to enhance the fear in tourists mind. The basic need of hotel, security, electricity, and devastating recreational places.

Economic growth is an instrument of economic prosperity for a nation. In the present study, the coefficient of economic growth shows, in the long run, a direct and significant impact on tourism. The value of coefficient growth shows a 1% increase in economic growth will directly affect tourism in the long run by 0.2002 percent. The result of EG in order with Ekanayake and Long (2012), and Khan and Rasheed (2016), found that a direct association between tourism and economic growth is found. It is admitted that tourism is the leading industry for economic growth that is affirmed by Balaguer and Cantavella-Jorda (2002) for Spain, Katircioglu (2009), and Adnan and Khan (2013) for Pakistan.

The coefficient of foreign direct investment has also a direct impact on tourism that is statistically significant, Salleh et al. (2011) also retrieved direct connection among tourism and FDI. One percent increase in FDI would enhance tourism by 0.2403 percent in the long run in Pakistan.

6. CONCLUSION

The study conducted to figure the nexus among terrorism, tourism and economic growth in case of Pakistan. It is an attempt to analyze the most recent vague in the country and try to find out the consequences on tourism; it gave a new dimension to the comprehensive studies exploring the repercussion of terrorism on various social factors. Data has been collected through the world development indicator, Barro and Lee, and the global terrorism database for the period of 1980 to 2016. ARDL bound test has utilized in this study. The consequences indicated that terrorism hurts tourism in Pakistan.

Terrorism is fundamentally a political and economic issue. Government policies without direction and the international political scene over the past four decades are the cause of this problem. It is a hostile that has not only created dread in the minds of the regional inhabitants but also foreigners and visitors. Terrorist attacks destroy historic sites. In Pakistan, terrorist attacks are concentrating in areas of tourist attractions such as the Swat and Northern areas. The basic need of the tourist is safety and security.

| Variables | Short run | Long run |
|-----------|-----------|----------|
| Coefficients | P-value | Coefficients | P-value |
| HK | 0.0916 | 0.8822 | 2.4828*** | 0.0005 |
| HK (-1) | 1.6802*** | 0.0015 | 0.0004 |
| TERR | 0.0037 | 0.7657 | -0.0154*** | 0.0536 |
| TERR (-3) | 0.0379* | 0.0742 | -0.0109 | 0.0009 |
| EG | 0.1091 | 0.0096 | 0.2002* | 0.0862 |
| EG (-4) | -0.0772** | 0.0583 | -0.0005 | 0.9875 |
| FDI | -0.0005 | 0.9875 | 0.2403*** | 0.0040 |
| FDI (-3) | 0.1337* | 0.0163 | 0.0583 | 0.0009 |
| Constant | 3.2685*** | 0.0107 | 4.5801*** | 0.0000 |
| R² | 0.5971 | ***significance at 1% level, **significance at 5% level, *significance at 1%
They do not come in that country which preys to terrorism. The government of Pakistan should handle the issue of terrorism. There is a need to resolve the issues for enhancing international tourism.

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