Chapter 6
The Effects of Globalization and Terrorism on Tourist Arrivals to Turkey

Zübeyde Şentürk Ulucak and Ali Gökhan Yücel

Abstract Turkey, with rich tourism diversity and destinations, has experienced considerable changes in the tourism sector as one of the top ten most visited countries over two decades. Research shows that increasing mutual interaction and integration among countries and different cultures encourage visitors and contribute to tourism sector development. In this respect, in the light of available data, globalization performance in Turkey has been ongoing above the world average since 1970. On the other hand, the country has suffered terror attacks that are a significant deterrent factor for tourism. Hundreds of bombings and armed assaults occurred until very recently. However, empirical evidence on the role of terrorism and globalization in the tourism sector is not sufficient to clearly understand tourist behaviors and to provide new insights into the literature. Considering the probable effects of globalization and terrorism, Turkey is an excellent case to investigate tourism sector development within this framework. Therefore, this study aims to investigate how tourist arrivals to Turkey react to globalization level and terror attacks by using advanced time-series analysis covering the period 1980–2018. Results reveal that globalization and terrorism are essential determinants of tourist arrivals in Turkey.

Keywords Tourism sector · Globalization · Terrorism · Tourist arrivals · Turkey

6.1 Introduction

Tourism sector has gained significant momentum as a result of economic development, decreases in air transportation costs, and technological advances. According to recent research by the World Travel and Tourism Council (WTTC 2019a), the
contribution of the tourism sector to global gross domestic product is 10.4% and 319 million jobs, which corresponds to 10% of the total employment in 2018.

Table 6.1 presents the world’s top ten countries in the number of international tourist arrivals and tourism receipts. The total number of tourists reached 1,460 billion in 2019, growing by 3.6% as compared to 2018. Nine out of the top ten countries enjoyed favorable growth rates in the number of tourist arrivals. France remained the world’s most popular tourist destination hosting more than 90 million foreign tourists, followed by Spain, the United States, China, and Turkey. Alongside these countries, Mexico, Thailand, Germany, and the United Kingdom also managed to enter the top ten tourist destinations worldwide. International tourism receipts reached $1,479 billion in 2019, growing 1.5% compared to the previous year. The United States is the top tourism earner by far, followed by Spain, France, Thailand, and the UK.

A striking insight from Table 6.1 is that while the United States ranks third in the number of tourist arrivals, it earns the most revenue from tourism by far. The share of the United States in tourist arrivals is around 5.5%, while the percentage of its tourism receipts is 14.5%. Another aspect worth mentioning is that the improvement in the number of tourist arrivals to Turkey is not in line with its tourism receipts. While Turkey ranks as the 6th most popular tourist destination, it ranks only 13th in terms of tourism receipts. To make a comparison, Turkey hosted 51.2 million tourists with a tourism receipt of $29.8 billion, while Germany hosted 39.6 million tourists with a receipt of $41.6 billion. In other words, Germany generated $10 billion more in tourism revenue than Turkey despite hosting 10 million fewer visitors than Turkey.

Table 6.1 Top ten countries in tourist arrivals and tourism receipts

| Country | Tourist Arrivals (million, 2019) | Share (%) | Change (%) (2019/2018) | Country | Tourism receipts (USD billion) | Share (%) | Change (%) (2019/2018) |
|---------|---------------------------------|-----------|------------------------|---------|-------------------------------|-----------|------------------------|
| France  | 90.3*                           | 6.19      | 2.4*                   | US      | 214.1                         | 14.5      | −0.3                   |
| Spain   | 83.7                            | 5.74      | 1.1                    | Spain   | 79.7                          | 5.4       | 3.2                    |
| US      | 79.3                            | 5.53      | −0.6                   | France  | 63.8                          | 4.3       | 1.9                    |
| China   | 65.7                            | 4.36      | 4.5                    | Thailand| 60.5                          | 4.1       | 3.2                    |
| Italy   | 64.5                            | 4.27      | 4.8                    | UK      | 49.9                          | 3.4       | 7.4                    |
| Turkey  | 51.2                            | 3.17      | 11.9                   | Italy   | 49.6                          | 3.4       | 6.2                    |
| Mexico  | 45.0                            | 2.87      | 9.0                    | Japan   | 46.1                          | 3.1       | 8.0                    |
| Thailand| 39.8                            | 2.70      | 4.2                    | Australia| 45.7                         | 3.1       | 9.1                    |
| Germany | 39.6                            | 2.65      | 1.8                    | Germany | 41.6                          | 2.8       | 2.2                    |
| UK      | 37.5                            | 2.52      | 3.2                    | Macao   | 39.5                          | 2.7       | −2.9                   |
| TOP-10  | 596.6                           | 40.86     | 4.2                    | TOP-10  | 616.9                         | 46.6      | 3.8                    |
| WORLD   | 1,460                           | 100       | 3.6                    | WORLD   | 1,479                         | 100       | 7.1                    |

Source: World tourism barometer (UNWTO 2020b); *Projected
As a result of increased wealth and life expectancy, lower transportation costs, better pensions and advertising, worldwide tourism has been growing since the 1950s. Between 1950 and 2019 the number of international tourist arrivals has grown massively from 25 million to 1.5 billion. On the other hand, the short-term tourism sector is highly volatile due to domestic and foreign shocks. Among the various shocks affecting the tourism sector, diseases and terrorism are the most harmful ones. Broke out in Wuhan, China, at the end of 2019, Covid-19 hit tourism sector so hard that UNWTO (2020a) projects that the number of international visitors will drop by 60–80% in 2020, contrary to the previous forecast of 3–4% growth. The tourism sector also takes a massive hit by terror attacks. Since the beginning of the twenty-first century, terrorism has been on the rise. There has been a five-fold increase in terror-related deaths since 2000. Terrorist attacks of September 11, 2001, in New York, Bali bombings in 2002, 2004 Jakarta bombings, 2005 London bombings, 2006 Egypt bombings, 2008 Mumbai attacks, 2013 Nairobi armed assault, 2015 November Paris attacks, 2016 March Brussel attacks, 2016 Nice attack, March 2017 London attack, 2019 Sri Lanka attacks are only some of the terrorist incidents that the world has witnessed.

Buckelew (1984, p. 18) defines terrorism as “Violent, criminal behaviour designed primarily to generate fear in the community, or in a substantial segment of the community, for political purposes.” Based on Buckelew’s definition, it could be said that the fundamental purpose of terrorism is to inspire fear so that people change their behavior. In most of the terrorist attacks, tourist destinations are the main target. The reason behind this is to use tourists as a political tool to attract more media coverage.

A report issued by WTTC (2019b) shows that it takes 13 months on average for the tourism sector to recover from a terrorist attack. As for the epidemics, it takes relatively longer, 21 months, to bounce back from an epidemic. However, the situation might be different for Turkey as the country has suffered several attacks in the last two decades. Tourism losses have a substantial impact on Turkey’s economy, where tourism constitutes a significant share (20%) of total exports. Given the importance of tourism in Turkey’s economy, analyzing the determinants of tourism demand in Turkey is an appealing research area. Turkey has several distinct features that make the country an essential venue for study. Firstly, Turkey is an excellent case to analyze as the country hosted 51.2 million tourists in 2019, which gave it a sixth spot in the world rankings. Understanding the dynamics of tourism demand in Turkey plays an important role in achieving sustainable tourism. The results obtained from this study may also provide hints for other countries.

Secondly, among the many determinants of tourism demand, globalization and terrorism are the leading ones. Therefore, we analyze the determinants of tourism demand in Turkey in a multivariate framework incorporating globalization and terrorism. Turkey is the only country in the top ten tourist destinations consistently and severely suffering from terrorism/violence. In his book published in 1984, Buckelew stated that Turkey had managed to bring endemic terrorism under control. As opposed to the author’s statement, the country has been fighting terrorism for nearly 40 years. On the other hand, globalization has become the main driver of the tourism sector since it integrates countries through economic, societal, and cultural
aspects and enables them to get in touch more closely (Ulucak et al. 2020). Given the pivotal role of globalization in the tourism sector, one may consider Turkey as one of the most globalized countries because the globalization performance of the country has been over the world average globalization level since the 1970s (Bilgili et al. 2020).

Thirdly, the imbalance between the number of international tourist arrivals and tourism receipts of Turkey may be better understood by revealing the quantitative impacts of each variable. If the elasticities of each variable are revealed, then the tourism receipts may be boosted by increasing the price of inelastic determinants of tourism demand as well as decreasing the price of elastic determinants of tourism demand.

Fourthly, we used annual data of Turkey covering the period of 1980–2018. We analyze the stationarity properties of the variables and cointegration among the variables through a recently developed Fourier approach, which provides more robust results. In the last stage of the empirical analysis, we used fully modified ordinary least squares (FMOLS) and dynamic ordinary least squares (DOLS) estimators to obtain the long-run parameters. Overall, the findings are expected to provide valuable insights into both researchers and policymakers.

The remainder of this study is organized as follows. The next section provides a brief literature review. Section three presents the model, data, and methodology. Empirical results and discussion are given in section four. The last section concludes the study.

6.2 Literature Review

Since the influential paper of Enders and Sandler (1991), several researchers have studied the empirical relationship between terrorism and tourism. There is a consensus in the literature that terrorism harms tourism demand (Bhattarai et al. 2005; Drakos and Kutan 2003; Llorca-Vivero 2008; Thompson 2011; Ulucak et al. 2020; Yap and Saha 2013; Yaya 2009, among others). However, the magnitude of the impacts of terror incidents varies from case to case.

Advanced econometric techniques became an essential tool for identifying the impacts of terrorism on tourism. In their pioneering study, Enders and Sandler (1991) examined the effects of terrorist activities by ETA, a separatist group, on Spain’s tourism using monthly data from 1970 to 1988. The authors found that terrorist events had a substantial impact on the number of tourists visiting Spain. Enders and Sandler also found that there exists unidirectional causality running from terrorism to tourism. The authors further argued that a typical terror incident was estimated to scare away 140,000 tourists.

In another study by Enders and friends (1992), the authors employ autoregressive integrated moving average (ARIMA) covering the period from 1974 to 1988 for Austria, Greece, and Italy. The authors conclude that visitors change their country
preferences for tourism to minimize the risk of witnessing terror incidents. Enders et al. (1992) estimate that terrorist attacks led to a loss of 16 billion SDRs.

Aly and Strazicich (2000) investigate the effects of terrorism on two countries with a highly developed tourism industry. Using data from 1955 to 1997 for Egypt and 1971–1997 for Israel and employing two-break Lagrange Multiplier (LM) unit root tests, the authors conclude that the effects of terrorism on tourism in these countries are temporary, not permanent.

In an appealing study carried out by Pizam and Fleischer (2002), the authors examined the monthly tourist arrivals to Israel, covering 1991:05–2001:05. The results of the study confirm the existence of the hypothesis that “the frequency of acts of terrorism cause a larger decline in international tourist arrivals than the severity of these acts.” An important implication of the study is that tourism destinations could recover from even severe terror incidents so long as the incidents are not repeated.

Drakos and Kutan (2003) developed a consumer-choice model to investigate the regional effects of terrorism. This study employed monthly data from 1991:01 to 2000:12 for Greece, Israel, and Turkey. In addition to the harmful effects of terrorism on tourism, the authors found evidence of substitution between countries as tourism destinations if one appears safer than the other. An essential finding of the study regarding Turkey is that Turkey’s tourism market share dropped by 5.21% as a result of terror incidents between 1991 and 2001.

Llorca-Vivero (2008) analyzed the impacts of terrorist attacks on international tourist arrivals. Using a panel gravity equation for tourism from the G7 countries to a sample of 134 countries covering 2001–2003, Llorca-Vivero found that both domestic and international terror incidents affect tourist arrivals. The author also argues that the impact of terrorism is more severe in developing countries.

In a similar study, Yaya (2009) examined the effect of terrorism on the number of tourist arrivals to Turkey using monthly data 1997:01–2006:12. The findings of the study show that there exists a negative but relatively small impact of terrorism on tourism. The author further argues that terror incidents in Turkey accounted for a reduction of 6 billion visitors over the last 9 years. The economic cost, on the other hand, was estimated to be around $700 billion in 2006.

An important study by Thompson (2011) compared the effects of terrorism on the tourism sector of developing and developed countries. The findings obtained from cross-sectional data of 60 countries suggest that the effect of terror incidents on tourism is more significant in developing countries than in developed countries. The author suggests that developing countries should pay special attention to prevent terrorism.

Feridun (2011) examined the relationship between terrorism and tourism in Turkey for the period between 1986 and 2006. The results of the ARDL bounds test suggest that there is a long-run relationship between tourism and terrorism. The findings also prove the existence of a negative unidirectional causality running from terrorism to tourism.

Employing a fixed-effects panel data analysis for 139 countries over the period 1999–2009, Yap and Saha (2013) found that political instability, corruption and terror incidents have negative impacts on tourism demand, and the effects are substantial.
For instance, a one-unit increase in terror incidents reduced tourist arrivals by 16.2% and tourism revenue by 17.8%. An interesting finding of the study is that terror incidents have less impact compared to political instability.

Buigut (2018) employed a dynamic panel model to make a comparison between the effects of terrorism on developed and emerging country demand for tourism in Kenya. Spanning 2010Q1–2013Q4, the author found that the intensity of terrorist attacks significantly decrease tourist inflows from developed countries but not from emerging countries. Buigut (2018) argues that a 1% increase in fatality decreases tourist arrivals from developed countries by 0.082%, which corresponds to 2487 visitors per year.

In a recent study, Montes and Bernabé (2020) examine the tourist arrivals to Rio de Janeiro, which is the only city in Brazil among the 100 most visited in the world. Employing a panel data analysis covering the period of 2003–2016, the authors conclude that violence reduces the tourist arrivals. The authors also suggest that tourists from developed countries are more sensitive to violence than in developing countries. More specifically, every death as a result of violence in Rio de Janeiro scares away almost four tourists from developed countries and three tourists from developing countries.

In another recent study, Seabra et al. (2020) analyzed the connections between terrorist attacks and tourist arrivals in a multivariate time series analysis between 2002 and 2016 for Portugal. The main finding of the study suggests that terror incidents have a substantial impact on tourist arrivals. The authors also confirm the existence of terrorism spillover meaning that terrorist attacks in other countries also have consequences for Portuguese tourism.

From the globalization perspective, the current literature underlines a mutual relationship between globalization and tourism, which takes globalization into account as a leading factor affecting the dynamics of the tourism sector (Song et al. 2018). Using alternative globalization proxies such as trade openness, international affairs or cooperations, KOF globalization measurements, available studies confirmed the positive relationship between tourism and globalization (Chung et al. 2019; Hjalager 2007; Sugiyarto et al. 2003; Ulucak et al. 2020)

Despite being not limited to those mentioned above, studies investigating the relationship between terrorism and tourism for the case of Turkey are limited. As terrorism and other dynamics of tourism demand continue to evolve, it deserves special attention to analyze the relationship using more recent data and advanced econometric methods. This study identifies the gap and employs robust tests that examine the dynamics of tourism demand while paying special attention to terrorism and globalization.
6.3 Model, Data, and Methodology

The current literature on the determinants of tourism demand indicates that there are many socioeconomic variables employed to explain the number of tourist arrivals for a hosting country except tourism destinations worth seeing and cheap tourism opportunities. In a broad spectrum, these variables can be listed as domestic price level, per capita income, household debt level/debt crisis, nominal/real exchange rate, relative prices between visiting and hosting country, transportation costs, accommodation costs, crime rates, terror incidents, the rule of law, security, justice, globalization, corruption perception, etc. (Dogru et al. 2017; Fourie et al. 2019; Khalid et al. 2019). Although many leading factors explain tourist arrivals and can be employed in a stochastic framework; given the limitations of time series econometric applications and data availability, this study investigates the impacts of terrorism and globalization on the number of tourist arrivals visiting Turkey by constructing the following model:

\[
\ln T_A_t = \beta_0 + \beta_1 \ln F I_t + \beta_2 \ln R P_t + \beta_3 \ln R E X_t + \beta_4 \ln T e r_t + \beta_5 \ln G lob_t + \epsilon_t
\]

(6.1)

where \( T A, FI, RP, REX, Ter, Glob \) and \( \epsilon \) stand for tourist arrivals, foreign income level based on industrial production of advanced economies, relative prices calculated through proportion foreign price index and domestic price index (CPI\(_F\)/CPI\(_D\)), relative exchange rate, number of terror attacks, KOF globalization index and the stochastic error term reflects the effects of undefined factors in the model on tourist arrivals, respectively. The variables in Eq. (6.1) cover the period 1980–2018 based on the annual data for a single country—Turkey—which is suitable for using time series econometric analyses in the estimation of \( \beta \) coefficients. To this end, before proceeding the parameter estimation, the first step is to check the stationarity of variables since time series may have a unit root that may lead to a spurious regression relationship in the estimation of model parameters (Engle and Granger 1987). Then the analysis is maintained by verifying a long-run equilibrium relationship between study variables if the estimation model has non-stationary variables (Enders and Lee 2012a).

To check the stationarity properties of time series, there are some issues to be considered for reliable outcomes. For instance, traditional approaches such as augmented Dickey–Fuller (ADF 1981), Phillips and Perron (PP 1988), Kwiatkowski et al. (KPSS 1992), and Ng and Perron (NP 2001) tests may result in non-stationarity if there is a structural break affecting the state of affairs for the related variable (Perron 1989). On the other hand, the number of breaks is another problem in more recent methodologies which take structural breaks into account in stationarity check such as those proposed by Lumsdaine and Papell (1997), Zivot and Andrews (1992), Lee and Strazicich (2003) since it is difficult to capture the correct number and magnitude of multiple breaks (Prodan 2008). Therefore, a third option in controlling unit root properties of variables is to use Fourier approximation that allows capturing
known and unknown breaks through the use of low-frequency components (Enders and Lee 2012a, b; Rodrigues and Taylor 2012). In this process of Fourier approximation, known and unknown structures of breaks are regarded through Eq. (6.2) by expanding the unit root test equation with sine and cosine waves that occur over time in the series.

\[
d(t) = a_0 + \sum_{r=1}^{z} \delta_{1,r} \sin\left(\frac{2\pi kt}{T}\right) + \sum_{r=1}^{z} \delta_{2,r} \cos\left(\frac{2\pi rt}{T}\right); \ z \leq T/2
\]  

Equation (6.2) includes the number of frequencies \( z \) and a particular frequency \( r \) over the \( T \) period, and its inclusion into the unit root equation enables capturing known and unknown breaks in the unit root checks. Due to their flexibility structures, this study performs Fourier unit root tests proposed by Enders and Lee (2012a, b), Rodrigues and Taylor (2012). The deterministic term \( d(t) \) defined by Eq. (6.2) is also proposed by Banerjee et al. (2017) to check stationary combination of non-stationary variables, which means the presence of a long-run equilibrium–cointegration relationship that is the second step of non-stationary time-series analyses, between study variables.

\[
\Delta x_{1,t} = d(t) + \gamma_1 x_{1,t} + \gamma_2 x_{2,t-1} + \gamma_3 \Delta x_{2,t} + \epsilon_t
\]  

where \( x_1 \) and \( x_2 \) are the dependent and explanatory variables, respectively, and lagged values of their differenced terms in Eq. (6.3) are useful to control probable serial correlation of the residuals. As defined in Eq. (6.2), \( d(t) \) is the deterministic term that considers non-linear behavior of time. Having performed the procedure in Eq. (6.3), a cointegration relationship is determined based on the null and alternative hypothesis through t-statistics

\[
H_0 : \gamma_1 = 0 \rightarrow \text{no cointegration}
\]

\[
H_A : \gamma_1 < 0 \rightarrow \text{presence of cointegration}
\]

Fourier approximation procedure to check the stationarity of variables and cointegration relationship between them provides a consistent basis before the estimation of long-run parameters in Eq. (6.1). Another critical issue is to carry out an appropriate estimator for the cointegrated variables. Because various problems such as serial correlation, heteroskedasticity and endogeneity may lead to unreliable results, the ordinary least squares (OLS) estimator is conducted. To this end, fully modified OLS (FMOLS) and dynamic OLS (DOLS) estimators are capable in consideration of those issues in the long-run parameter estimations and produce more robust results for cointegration equations.
6.4 Results and Discussions

To check the stationarity properties of the variables, Fourier unit root tests proposed by Enders and Lee (2012a, F-ADF hereafter; 2012b, F-LM hereafter, and Rodrigues and Taylor (2012, F-GLS hereafter) were applied and three statistics were obtained for each variable with different number of Fourier frequencies. Unit root test results in Table 6.2 indicate that number of tourist arrivals \((TA)\), foreign income \((FI)\), relative prices \((RP)\), relative exchange rate \((REX)\), number of terror incidents \((TER)\) and globalization data follow a non-stationary process over the period 1980–2018. According to the results at their level values, test statistics calculated for each one shown in column 3 is greater than critical values for 5% significance levels, which implies the null hypothesis of stationarity should be rejected.

Having rejected stationarity for the level values, it is useful to confirm the order of integrations level, i.e., I(1), I(2) for each variable since the second step investigates the linear combination of study variables is I(0) or I(1). So, unit root tests were rerun for first differenced data of each variable, and results in the fourth column of Table 6.2 were obtained, which each one is lower than their critical values of 5%. So, one might conclude that all the variables turn out to be stationary when their first differences are taken, meaning that all the variables are I(1). Such a circumstance

| Variable | F-ADF (level) | F-ADF (First Difference) | F-LM (level) | F-LM (First Difference) | F-GLS (level) | F-GLS (First Difference) | Number of Fourier | Critical value (5%) |
|----------|---------------|--------------------------|--------------|--------------------------|--------------|--------------------------|-------------------|-------------------|
| TA       | −2.652        | −5.145                   | −3.854       | −6.768                   | −3.456       | −5.951                   | 1                 | −4.35             |
| FI       | −3.245        | −6.857                   | −2.358       | −5.386                   | −1.978       | −4.158                   | 2                 | −4.05             |
| RP       | −3.157        | −6.518                   | −3.054       | −6.024                   | −4.015       | −7.156                   | 2                 | −4.35             |
| REX      | −3.752        | −6.785                   | −3.854       | −5.963                   | −3.571       | −5.487                   | 1                 | −4.10             |
| TER      | −2.419        | −5.611                   | −3.625       | −6.452                   | −2.984       | −5.325                   | 2                 | −4.05             |
| GLOB     | −3.547        | −6.547                   | −2.990       | −4.982                   | −3.276       | −6.541                   | 1                 | −4.10             |
that all variables of study model in Eq. (6.1) are I(1) requires to check whether a cointegration relationship between those variables exists or not before proceeding with the estimation of long-run coefficients. Therefore, a Fourier unit root test proposed by Banerjee et al. (2017) was applied and the results in Table 6.3 were obtained, which verifies a cointegration/long-run equilibrium relationship for Eq. (6.1) since the calculated t-statistic depicted in column 2 is lower than the 5% critical value in column 3. Hence, it falls into the rejection region for the null hypothesis of no cointegration.

After confirmation of the cointegration relationship, cointegration estimators such as FMOLS and DOLS should be employed to avoid possible endogeneity problem that leads to biased and inconsistent results. FMOLS and DOLS estimators are also robust against serial correlation and heteroskedasticity problems. Therefore, to get long-run cointegration parameters of Eq. (6.1), we applied these cointegration estimators whose results are noted in Table 6.4.

Long-run coefficients estimated through FMOLS and DOLS are statistically significant, and the explanatory power of regressors for variabilities in tourist arrivals is sufficiently high with R-squared values of 90% and 91%. According to the results, an increase in the income level of visitors increase the number of tourist arrivals by 2.258%, which confirms the theoretical expectation that tourists respond to income rise by increasing their demand for tourism. Similarly, rises in relative price and relative exchange rate as well, which are essential determinants for both the purchasing powers of foreign visitors and destination preferences, increase the number of tourist arrivals. However, one may conclude that terrorism matters for the tourism sector in Turkey since it has a detrimental impact on tourist arrivals, and the coefficient of terrorism with a negative sign is higher than those of other regressors in the estimation. Results on the role of terrorism in the tourism sector are in line with findings of

Table 6.3 Fourier cointegration test result

| $\hat{k}$ | t-stat | Critical value (5%) | Lags for $[\Delta y] [\Delta x]$ | Result |
|---|---|---|---|---|
| 2 | −5.715 | −3.80 | 1 | 1 | Cointegration |

Table 6.4 Long-run cointegration parameters

| Variable | FMOLS | DOLS |
|---|---|---|
| | Coeff. | s.e. | t-stat | Coeff. | s.e. | t-stat |
| **Constant** | 10.253 | 3.140 | 3.265*** | 12.785 | 2.546 | 5.021*** |
| **FI** | 2.258 | 1.107 | 2.039** | 2.457 | 0.945 | 2.600** |
| **RP** | 0.825 | 0.256 | 3.222*** | 1.126 | 0.254 | 4.433*** |
| **REX** | 1.568 | 0.457 | 3.431*** | 1.235 | 0.154 | 8.019*** |
| **TER** | −2.871 | 1.245 | −2.306** | −2.687 | 0.763 | -3.521*** |
| **GLOB** | 0.954 | 0.475 | 2.008** | 1.521 | 0.368 | 4.133*** |

***, **, * denote statistical significance level at 1%, 5%, and 10%, respectively
Bhattarai et al. (2005), Drakos and Kutan (2003), Llorca-Vivero (2008), Thompson (2011), Ulucak et al. (2020), Yap and Saha (2013), Yaya (2009), among others.

On the other hand, some discussion points arise for Turkey to underline threats in the tourism sector in terms of terror attacks. Accordingly, the well-known hypothesis recalls that “the frequency of acts of terrorism cause a larger decline in international tourist arrivals than the severity of these acts.” Turkey is almost subjected to daily terror attacks as can be verified by daily data of the Global Terrorism Database. Although a vast majority of them targeted military or police powers in the southeast region, which is far from major tourist destinations of the country, these attacks may create a considerable uncertainty or may be a robust dissuading factor for visitor decisions in choosing Turkey. One may claim that tourist arrivals to Turkey have increased over time despite terror attacks, but this claim should be justified by revealing and comparing potential and available tourist numbers. In parallel with this argument, Yaya (2009) examined the effect of terrorism on the number of tourist arrivals to Turkey using monthly data 1997:01–2006:12. The findings of the study show that there exists a negative but relatively small impact of terrorism on tourism. However, our results show that terror attacks are the most influenced factor affecting tourist arrivals.

Moreover, tourist arrivals may continue to increase since other factors such as global interaction, cheap holiday opportunities based on relative prices/exchange rates, and the absence of alternatives may have dominated the adverse effect of terrorism. However, countries may not increase tourism receipts in parallel with the increase of arrivals since tourists may prefer not to get out of hotels with full service during their vacations which are made especially for summer holidays due to the probability of any victimization. So, this may be an alternative explanation of why Turkey is not ranked within the top ten countries by tourism receipts even though it always takes part in the most visited ten countries (see Table 6.1). This discussion is in line with the findings of Montes and Bernabé (2020), showing that tourists from developed countries are more sensitive to violence than developing countries. More specifically, they found that every death as a result of violence in Rio de Janeiro scares away almost four tourists from developed countries and three tourists from developing countries. Considering this situation for Turkey, developed countries such as Germany, France, the United Kingdom, Netherlands, Belgium, Greece, Poland, Switzerland, and the United States are among the most visitor sending countries to Turkey.

On the other hand, Russia, Georgia, Iran, Iraq, Bulgaria, Ukraine, Azerbaijan, Saudi Arabia, Romania, and Kazakhstan are the most tourist-sending countries with lower and middle income relatively. Therefore, terror attacks may have different impacts on tourists who come from developed and developing countries to Turkey as well. Overall, empirical findings and all these discussion points may shed new light on the impact of terrorism on tourist arrivals in Turkey, and the situation noted down in Table 6.1. Thus, struggling with terrorism matters for Turkey to increase tourist arrivals and receipts.

Our results for globalization and other explanatory variables are also consistent with the theoretical expectations. Globalization variable is another focal point of the study and results indicate that tourist arrivals increase as the globalization level of the
country rises, thus the country can increase benefits from the tourism sector through economic, societal, and cultural integration to the world.

6.5 Conclusion

The tourism sector is a major source of employment, government revenue, and foreign currency for many economies since it provides a considerable employment opportunity and creates a huge demand for domestic products. However, it is affected by many variables that increase or decrease the number of visitors and/or tourism receipts and needs to be well managed to get its potential benefits and increase economic added values from tourism. To this end, the impacts of driving factors and their roles in shaping tourism policies should be well investigated and revealed in detail. Turkey is an emerging economy in which the tourism sector has a significant share and needs to improve gains from tourism, given its tourism potential. On the other hand, it suffers from a chronic terror problem that should be emergently solved, which constrains the further expansion of the tourism sector. To reveal how tourist arrivals react to terror attacks in Turkey, this study investigates the effects of globalization and terrorism on tourist arrivals by using yearly data covering the period 1980–2018 through time series econometric methods. Firstly, stationarity conditions of time series data used in the study were tested through Fourier unit root tests that allow known and unknown breaks, and then the cointegration relationship was confirmed by the Fourier cointegration approach. Finally, FMOLS and DOLS estimators were carried out to get long-run cointegration parameters that show how 1% change in the related variable would affect the response variable. Empirical findings indicate that terror attacks have a detrimental effect on tourist arrivals, while globalization, relative prices, and exchange rate, foreign income have a positive influence on the tourism sector. Combining the facts and empirical results, the study provides valuable insights and discussion points for the tourism sector in Turkey. For instance, Turkey cannot reach the potential tourism gains despite its visitor numbers, and visitors are highly sensitive to terror attacks, as is verified by our findings. Also, research reveals that visitors who may spend more money from advanced or high-income countries are more vulnerable to terror attacks than other visitors coming from developing or low-income countries. Besides, it is accepted that the frequency of terror attacks has a more significant negative impact on tourist arrivals than the severity of these acts. Therefore, terrorism is one of the most important problems in the tourism sector in Turkey. Policymakers should focus on not only military or security purposes in combating terrorism but also, they realize the potential economic loss from the tourism sector due to terror attacks and spend more efforts to convince all agents to struggle with violence and terrorism firstly. On the other hand, results suggest that global integration helps shape the tourism sector, and it leads to an increase in the number of tourist arrivals that may also result in more gains from the tourism sector. So, policymakers should expand the integration level by also designing good relationships with other countries to get more benefits and gains from the sector.
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