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**Tourist development between security and terrorism:
empirical evidence from Europe and the United States**

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Abstract

Research background: Today's world is torn between extreme conservatism and duality, in opposition, trying to break the classical framework of freedom in the movement of people. In the context of complex global relations, this impulse, especially related to the travels for tourism purposes, raises new issues concerning the safety and security. The tourism industry has a priority for the economic development of many countries in the world and is a large source of export earnings and, at the same time, an important factor in the balance of payments of a significant part of the national economies in the world. The growing importance of the tourism industry, however, puts tourist destinations worldwide at the forefront of new challenges, one of which is terrorism. In this environment, new relationships are emerging and this reflects on the development strategies, as well as on the financial outcomes of tourism industry which are also largely affected.

Purpose of the article: Respecting the new realities, the study explores the link between the risk of terrorism and the revenues from international tourism. Its main purpose is to investigate the

impact of terrorism on the financial revenues from tourism in the European countries and the United States. The research is determined by the perception that the financial flows from the international tourism are the quantitative manifestation of the hidden effects of the terrorism.

Methods: The research method includes a regression cross-section analysis and Granger Causality test. The survey is panel and includes 37 countries from Europe tourism region and the United States from Americas' tourism region (according UNWTO) for the period 2012–2017.

Findings & Value added: In conclusion, the effects of terrorism on the studied regions have been summarized, establishing dependence between terrorism and tourism, which illustrates a specific creative-destructive reflections of terrorism on tourism with regions particularities.

Introduction

The terrorism is a phenomenon that affects the geo-economic and the political processes. The effect and consequences of terrorism, however, are very interesting to be studied when they are designed on the tourism industry. From a geo-economic point of view, the effects of terrorism are developing particularly rapidly in connection with tourism, as well as demonstrate tremendous power in the 21st century. The age in which we live, instead of fanfares, started with a colossal terrorist act, which was carried out on September 11, 2001 in New York. It was followed by acts of terrorism in Moscow (2002), Madrid (2004), London (2005), Paris (2015, 2016), Nice (2016), Berlin (2016), Brussels (2017, 2018), Istanbul (2016, 2017, 2018), etc. — all of them leading tourist cities, which is indicative for linking trends between tourism and terrorism.

Nowadays the terrorist ideology is realized through terrorist acts that target the world's leading tourist destinations (see Faulkner, 2001, pp. 135–147; Ritchie, 2004, pp. 669–683; Baker, 2014, pp. 58–67; Ahmad *et al.*, 2014, pp. 302–304; Stankova, 2011, pp. 65–77 and many others). Thus, the terrorism becomes a risk that affects the decisions of tourists about their choice of a tourist destination. The distinctive connection between the terrorism and the tourism is becoming a fundamental problem for the development of tourism, especially in the financial and economic aspect. Continuing in the same rationale of reasoning, one of the most important effects of terrorism logically stands out, namely its ability to redirect the tourist preferences from one destination to another. In addition, the terrorism has a creative character, which means that the terrorist attacks induce certain reforms that make the tourist destinations much safer and more profitable. These two effects of terrorism remain hidden from the general public, which is set in the initial effect of terrorism. Consequently, the issue of the impact of terrorism on the international tourism revenues for European countries and the United States appears to be logical, and therefore mean-

ingful as an object of research in the context of the study and the outlined range of terrorist goals.

The study is determined by the perception that the financial flows from the international tourism are the quantitative manifestation of the hidden effects of the terrorism. And this is namely the ability of the international tourism to redirect the tourist preferences from one destination to another and its creative power, which leads to increased competitiveness of tourist destinations. Therefore, the dynamics of the international tourism flows, which is determined by terrorism, is a quantitative indicator of the risk of terrorism, changing the tourism preferences, which determine the magnitude of the financial flows that are the basis for better competitiveness.

The research thesis is that the risk that terrorism creates has a dialectical impact on the tourist destinations by creating negative impulses for some geographic regions, for other geographic regions leads to creative effects.

The empirical analysis method includes a regression cross-section analysis and Granger Casualty tests of the link between the risk of terrorism and the income from international tourism in Europe and the United States.

The paper is structured as follows. The second section studies the literature. The third section provides an overview of the methodology that has been used. In the next two sections a description of the data and their preliminary analysis is presented, together with a reports and discussion on the results of the empirical analysis. The last section concludes the paper.

In his logic, the study attempts to explore and identify the manifestations of the effects of terrorism on tourism, based on data from leading global organizations on the revenues from international tourism and the global index of terrorism. The review of the literature on the topic outlines the aspects of tourism and terrorism issues and sets the framework for the research. A regression cross-section analysis and Granger-causality analysis are carried out in order to assess whether there is any potential effect of one indicator for the other. In the final part, it is concluded that the established dependence between terrorism and tourism illustrates the creative-destructive effect of terrorism.

Literature review

Terrorism is not a new phenomenon. However, it has evolved over time, and in this connection, studying the motives for it and its manifestations is important, especially for an industry like tourism, highly sensitive to external influences and impacts. Research on the subject can be found in works by authors such as Faulkner (2001, pp. 135–147), Ritchie (2004, pp. 669–

683), Baker (2014, pp. 58–67), Stankova (2011, pp. 65–77), Ahmad *et al.* (2014, pp. 302–304), Teoman (2017, pp. 132–142) and many others.

Bennett and Bray (2010) for example explore the effect of terrorism on tourism in countries, such as Egypt, Kenya, USA, emphasizing on the impact of the attack on September, 11th, 2001. They come to the conclusion that there exists a relation between terrorism and tourism, whose relation involves negative characteristics, which are multiplied into negative effects on tourism and the accompanying auxiliary activities. A particularly negative effect is experienced by air companies and the sector offering intermediate and final products. The negative impulses of the tourism sector have their specific socio-economic effects, such as unemployment, GDP decline, and so on.

Bennett and Bray (2010), although justifying the negative effect of the terrorism, have developed the idea that the terrorism does not have the same impact on all tourist destinations. On the contrary, even for some destinations it has a beneficial effect. Also, continuing this context of reasoning, they come to the conclusion that, after terrorist attacks, some of the tourist destinations implement such reforms that make them profitable. These views of Mark Bennett and Harry Bray are a consequence of the allocation dynamics that is being induced by the terrorist acts that redirect the tourist flows. The tourists seek security in tourist destinations, which is determined by terrorism. Hence, terrorist acts change the tourists' preferences. The tourists, moving from one tourist destination to another, inherently induce a process of a positive shock over the destination to which they have been redirected as a result of the terrorist attack. A similar thesis on the impact of terrorism on tourism is also developed by Gabriel *et al.* (2015, pp. 3–21). They investigate how the terrorist attacks affect the preferences of the German tourists and their choice for taking a tourist trip. Their study covers 192 countries (Gabriel *et al.*, 2015, pp. 3–21). The conclusion they have drawn is that the turbulent flow before September 11, 2001 had been targeted predominantly on the tourist destinations in the Islamic countries, and after the New York bombing, the tourist flow in the Islamic countries declined. Thus, the authors prove the negative effect that terrorism causes on the financial revenues from tourism. The authors divide the risk effect of the terrorism into a short-term and a long-term period. They conclude that, in the short term, the effect of terrorism is much greater than in the long term. Basu and Marg (2010) have conducted a study to determine whether the terrorism and the political factors have their impact on the reduction of the tourism revenues as a consequence of the reduced tourist flows. The authors conclude that terrorism is a factor that negatively affects tourism revenues. Their study deals with the tourism flows in Egypt,

Jordan and Syria under the influence of the terrorism. Gazopoulou (2011) explores the tourist flow to Greece and the effect of terrorism on it. She concludes that terrorism, although it has a negative impact on tourism, will have no significant impact on turbulences in the tourist flows to Greece. Pointing out that the tourists' incomes and prices are variable, she concludes that they often have a greater impact on the tourism flow than on terrorism.

Teoman (2017, pp. 132–142), examines the effects of the terrorism on the tourism in Europe. To deepen the effects of terrorism in Europe, he explores the terrorist attacks and their impact on the tourism in France and Turkey. He also comes to the conclusion that terrorist attacks have a different impact on the different tourist destinations. In Turkey, there is a decrease in the tourist flows, while in France there is an increase in the tourist flows. The conclusion made by Teoman (2017, pp. 132–142) is that security is decisive for tourism. It conveys the notion that Europe is a secure tourist destination. An important conclusion is that the political turbulence that provokes the refugee wave in Europe can have a negative impact on tourism. Santana-Gallego *et al.* (2016) investigate the impact of the terrorism, the crime and the corruption on the tourist flow. By means of a two-dimensional analysis, they conclude that the terrorism and the crime have a negative impact on the tourism. The authors conclude that in addition to the terrorism and the crime, the corruption and political risk also have a negative impact on the international tourism flows. This conclusion is based on a survey covering 171 countries. Vanneste *et al.* (2017) studying the effects of terrorism accept that from a tourism perspective, the primary conditions for a normal tourism development of a destination, region, or country refer to peace and the safety of the tourists. They come to the conclusion that the influence of terrorist attacks on the supply side becomes very clear soon since the number of (international) arrivals, overnight stays and hotels' occupancy rates tend to respond very quickly, affected by tourists staying away (Vanneste *et al.*, 2017)

From what has been said so far, it is clearly indicated that the terrorism creates uncertainty, which adopts a socio-political and economic character that negatively affects the preferences and decisions of the tourists. Authors, such as Ranga and Pradhan (2014, pp. 26–39), Abdelaty and Esmail (2016, pp. 469–475), have developed the idea that the terrorism has a negative impact on tourism.

The presented interpretation of the research that has been carried out on the impact of the terrorism on tourism, highlights the negative effect of terrorist attacks on the incomes from tourism. Also, the empirically-theoretical results clearly show that the effect of terrorism has a dichotomy,

which is reflected in the influence of tourists' preferences for tourism from one geographic region to another. With consideration to this recapitulation, the research is an attempt to further develop theoretically and empirically the existing knowledge on the subject, distinguishable from others by the chosen scientific approach.

Research methodology

The research explores the effects of terrorism on tourism, and its focus is on the reflection of terrorism on the revenues from the international tourism in Europe and the United States and the assumption that tourism itself also has influences, including on the conditions for acts of terrorism.

The specificity of the research topic presupposes the choice of methodology, namely — regression cross section analysis and Granger Causality tests (de Hoyos & Sarafidis, 2006, pp. 482–496; Granger, 1969, pp. 425–435; Phillips & Perron, 1988, pp. 335–346) as a time-series data based approach, determining causality. Panel tests for single root testing (Panel unit root test: Summary including Levin, Lin & Chut, ADF–Fisher Chi-square, PP–Fisher Chi-square), are also applied.

Procedures for regression cross-section analysis and Granger Causality tests require the availability of stationarity. A stationarity process is a Gaussian distribution (also known as normal distribution) and is assumed that during any measurement values will follow a normal distribution with an equal number of measurements above and below the mean value (Dasgupta & Wahed, 2014, pp. 47–66).

A given stochastic process (Y_t) is defined as being completely stationary of order l when:

$$E(Y_{t_1}^{l_1} \dots Y_{t_n}^{l_n}) = E(Y_{t_1+s}^{l_1} \dots Y_{t_n+s}^{l_n}). \quad (1)$$

The process (Y_t) is characterized by the following moments (Petkov, 2008, pp. 146–147):

$$E(Y_t) = EY_{t+s} = \mu < \infty$$

$$E(Y_t^2) = EY_{t+s}^2 = \sigma^2 < \infty \quad (2)$$

$$cov(Y_{t_1}, Y_{t_2}) = cov(Y_{t_1+s}, Y_{t_2+s}) = \gamma_{t_1, t_2} = \gamma_s < \infty$$

where: $t_1 - t_2 = s$.

The strong stationarity is available when the following condition is met:

$$E(Y_t) = EY_{t+s} = \mu < \infty. \quad (2)$$

The weak stationarity appears under the following condition:

$$\text{cov}(Y_{t_1}, Y_{t_2}) = \text{cov}(Y_{t_1+s}, Y_{t_2+s}) = \gamma_{t_1, t_2} = \gamma_s < \infty. \quad (4)$$

There is no autocorrelation when the following condition is met:

$$E(Y_t^2) = EY_{t+s}^2 = \sigma^2 < \infty. \quad (5)$$

In the case of a normal Gaussian stationarity process, the second-order stationarity is the equivalent of full stationarity (Petkov, 2008; p. 147).

In the present research framework, through the above mentioned tests a normal Gaussian stationarity process is found, which presupposes the further use of a linear regression model.

The stationarity of the dynamic lines is expressed by the following equation (set in the standard version in EViews (EViews 10)):

$$\Delta y_t = \alpha y_{t-1} + x_t + \varepsilon_t \quad (6)$$

The null hypothesis says that there is unit root,

$$H_0 : \alpha = 0 \quad (7)$$

$$H_1 : \alpha < 0 \quad (8)$$

The alternative hypothesis states that there is not unit root.

The regression model used is described by the following mathematical equation.

$$y = \alpha + \beta X + \epsilon \quad (9)$$

where:

- y – dependent variable;
- α – regression coefficient;
- β – regression coefficient;
- x – independent variable;
- ϵ – variable of interference.

The Granger Causality tests is expressed by the following two regression equations:

$$y_t = \alpha_{10} + \alpha_{11}y_{t-1} + \dots + \alpha_{1k}y_{t-k} + \beta_{11}x_{t-1} + \dots + \beta_{1k}x_{t-k} + \varepsilon_t \quad (10)$$

$$x_t = \alpha_{20} + \alpha_{21}x_{t-1} + \dots + \alpha_{2k}x_{t-k} + \beta_{21}y_{t-1} + \dots + \beta_{2k}xy_{t-k} + u_t$$

All countries geographically positioned in Europe, along with Russia, Turkey and the United States have been considered.

The study is panel-based and has a time limit covering the period 2012–2017 for two variables: the Global Terrorism Index (GTI) 2012–2017 and the International tourism receipts (ITR).

The databases used are from the Institute for Economics and Peace, 2012–2017 and the World Bank, covering 37 countries and 223 observations (tab. 1).

Drawing from the theoretical and empirical risk-incomes dependence, which is largely determined by the process of diversification, we can build up the theoretical-logical framework of the empirical research.

The starting point from which the theoretical logic of the problem can be developed is the main characteristic of terrorism, namely the creation of uncertainty that influences the preferences of the tourists and has the ability to change them. Consequently, the regulation of the in-security generated by the terrorism leads to the manifestation of the destructive-creative effect of terrorism. Continuing in the same rationale of reasoning, this means that if we look at tourism as an aggregate system consisting of different geographic regions, then the allocation of the uncertainty created by terrorism is characterized by a dynamism that induces the movement and the widening of the uncertainty between the different geographic regions, respectively, between the different tourist destinations. This logically leads to the conclusion that the control and the effects of this uncertainty generated by terrorism determine the direction and the magnitude of the movement of the tourists and respectively of the revenues from tourism. Hence, the usefulness of the dependence between the terrorism and the tourism depends on their simultaneous but not synchronous growth (by non-synchronously is meant the rate of increase). The simultaneous, but not synchronous, growth of terrorism and tourism, inherently means that there is a difference in the rate of increase between the tourism and the terrorism revenues over the time. This means that if there is an increase of the terrorism, an increase in international tourism revenue will be observed and this growth would be double or larger. As an opportunity, it derives from the emergence of

a compensatory mechanism that only manifests itself as a systemic factor induced by the consideration of tourism as a unified system of different geo-graphic regions. The comments made here seem to suggest that when an increase in terrorism leads to a greater increase in the international tourism revenue in a given region, at the same time, in another geographic region, terrorism leads to a reduction in the cash flows. A mechanism, however, determined by an exogenous variable which, for a geographic region, possesses the property of diversification and another of an adversely affecting factor. Such an exogenous variable is the geopolitics, which is realized as a military-political control. Applying the military-political control, in both internal and external policy, a direct and indirect regulation is achieved on the allocation and the magnitude and the speed of the dynamics of the insecurity created by terrorism (by non-synchronously is meant the rate of increase).

Mathematical justification of the theoretical concept is conceived in the following mathematical abstraction:

$$U = ITR - MPC \times GTI \quad (11)$$

where:

U – the utility,

ITR – revenues from international tourism,

MPC – geopolitical influence seen as military-political control,

GTI – global index of terrorism.

From such an equation, it follows that the output for the European countries is a consequence of the simultaneous increase in the risk of terrorism and tourism revenues, but the increase may be simultaneous, but not synchronous, i. e. the revenue growth is always faster than the increase in the risk of terrorism.

Mathematically, this is explained as:

$$ITR = 1 \quad (12)$$

$$GTI < 1 \quad (13)$$

From where it follows, that:

$$ITR > GTI \quad (14)$$

To be realized, the mathematical expressions depend on the degree of the military-political control. Therefore, if the military-political control is increasing in a given geographic region, it has the function of diversification and reduces the rate of the risk to another geographic region, accelerating the uncertainty in the controlled geographic region. This allows the revenue to be increased at a faster rate than the risk, resulting in a common utility or a beneficial effect on the tourism in Europe and the United States at the cost of a negative impact on tourism in the Middle East, explained mathematically by the monotone function:

$$\text{ITR} > \text{GTI} \longrightarrow f(\text{MPC}) \quad (15)$$

Following, the rate of growth of the international tourism revenue and the uncertainty generated by the magnitude of the risk of terrorism, are a function of exogenous external and internal political factors, as well as military strategic actions that give rise to control.

Results

The output of results in the theoretical and mathematical justification of the study, requires an empirical record of the existing dependence between the revenues from the international tourism and the terrorism (Tab. 2).

The interaction between the terrorism and the tourism is characterized as a moderate force dependence, which confirms the theoretically justified link. The dependence between terrorism and tourism is an important starting point for analyzing the impulse effects that are transmitted between terrorism and tourism. Their dependence is bidirectional and linear, which characterizes the dynamics of the trends of the two variables as a direct proportional transformation over the time (Fig. 1). Consequently, we have a simultaneous change of the two variables considered, but the correlation analysis cannot determine the rate of the change of the two variables.

At this stage of the study, the empirical argument that can be inferred is that the increase in the risk of terrorism and the incomes from international tourism in the European countries, Russia and the United States, is simultaneously and mutually inducible. This empirical characterization is explained by the geographical allocation of the risk of terrorism, respectively of the arising uncertainty. In other words, the geopolitical, the geoeconomic and the geographic link between European countries and the United States, on the one hand, and on the other — the Middle East, leads to a simultaneous increase in the risk of terrorism and incomes from tour-

ism in Europe and the United States. And in the Middle East we have an excessive increase in the risk but not in the revenue. This is the way the compensatory mechanism is manifested, which is a consequence of Europe's systemic geographic, economic and political commitment to the Middle East.

The impact between terrorism and tourism is of a two-sided nature. Thus, what is of interest, this is the impact of the international tourism revenue on the dynamics of choosing a place for a terrorist attack. It is logical that larger cash flow leads to more tourists. And the terrorism prefers locations that are densely populated and sensible for terrorist attacks. Accordingly, the popular tourist destinations are overcrowded and are therefore particularly attractive and contributing to the effectiveness of terrorist attacks. In this context, it is important to determine the impact of the increasing financial revenues from tourism on terrorism (Fig. 2; Tab. 3).

Increasing the revenues from the international tourism leads to an increase in the risk of terrorism by a coefficient of 1.99. Comparing this coefficient with the growth rate of tourism revenues as a result of the increasing risk of terrorism, it becomes clear that the terrorism induces growth in the tourism revenue by a coefficient of 9.03 (Tab. 4).

This comparison proves that the rate of the tourism revenue is higher than the rate of increase in the risk of tourism.

Thus, empirical arguments are presented in support of the theoretical and mathematical logic outlined above. The theoretical explanation is limited to the following. The uncertainty in the Middle East is a factor contributing to the development of the tourism in Europe and the United States. The conclusions made so far, allow for suggesting the argument that terrorism is rather stimulating to the European tourism. The stimulating force of the terrorism appears to be the direction of the tourism flows to Europe and the United States, which leads to an increase in the revenues from the international tourism. However, the increase in the revenue from tourism does not lead to a shift in the risk movements to the same force as the increase in the tourist flows.

The increasing of the revenue from tourism also leads to an increase in the risk of terrorism, but the consequences are not negative. Rather, it may be argued that this process leads to usefulness for Europe and the United States, which is times greater than the increase in risk. This utility is determined by the military actions that have been developing in the Middle East and are under the political and economic control of the United States, Russia, Turkey and Europe. It is these actions that are an exogenous variable that induces the diversification of the risk of terrorism for Europe and the US and an optimization of utility. The diversification is a consequence of

NATO's control on the events in the Arab world in political and military terms.

From the analysis made so far, it is clear that the following inequality is in effect:

$$ITR > GTI \quad (16)$$

which means that the empirical analysis gives econometric arguments that we have a simultaneous increase of the two variables, but the rate of their growth is different, which is determined by geopolitical, economic and military factors.

Discussion

It is obvious that terrorism has a strong impact on the international tourism cash flows. An empirical argument is also made that the increase in the risk of terrorism by a unit, leads to an increase of the revenues from international tourism by 9.03, i.e. we have a significantly higher increase in tourism revenue than the risk reproduced by terrorism. From here, it can be concluded that the rate of the increase of the revenues from the international tourist flow, is greater than the rate at which the risk rises. Therefore, the international tourism revenue from the countries of Europe, Turkey, Russia and the United States, is characterized by a considerably increasing size. This effect of terrorism shows the hidden effects of the rising risk of insecurity. On one hand, the uncertainty generates an outflow of tourists from the tourist destinations in the Middle East. On the other hand, the risk of terrorism, which has been growing in Europe, induces the political decisions in the European countries that lead to increased security measures and more sophisticated security methods, which, in turn, collide with more efficient and attractive tourist offers that also include the price management. This interaction between a governmental policy solution, larger and more sophisticated security and rational management measures, lead to the creation of more competitive tourist destinations that attract more tourist flows. The effect is to increase the cash receipts, as a result of the greater security that attracts the international movement of the tourists and redirects it to destinations in the countries we have considered.

The positive influence of terrorism on cash receipts in the countries under consideration reveals its dialectical multidimensional geographic influence, which has a creative destructive power. Terrorism, creating insecurity, does not necessarily have negative effects on the tourism cash flows. On the contrary, it even creates favorable conditions for their increase.

It can, therefore, be concluded, that terrorism impacts differently on different tourist destinations, which is a result of its creative power, having geographic, political and economic manifestations (see Ahlfeldt *et al.*, 2015, pp. 3–21; Stankova, 2015, pp. 69–79 and Teoman, 2017, pp. 132–142).

In view of the higher increase in the cash receipts from tourism to the risk of terrorism, it can be argued that the increase in risk in Europe and the US, leads to very large revenue benefits. This result, however, is a consequence of the diversification that the European countries and the US achieve as a result of geopolitical factors and a military presence in the Middle East. Inherently, the diversification, which is achieved as a result of the geopolitics and the military power, induces the allocation of the terrorism insecurity. The distribution of the risk of terrorism in the Europe — the Middle East geographic and economic system, on the one hand, increases the risk in the Middle East and, on the other, leads to the optimal benefits of the rising risk in Europe.

Here it has also been confirmed that the positive effect of terrorism on tourism in Europe and the United States is a consequence of the unfavorable conditions in the Middle East. The causal relationship between the dependence of tourism and terrorism for the observed period and the countries under consideration and on equal terms, is clearly established (Tab. 5).

To prove the main thesis, namely, that the terrorism has a dialectical-creative nature, empirical arguments have to be found that the reason determining the relationship between terrorism and tourism, is precisely the risk of increasing uncertainty as a result of terrorism. An empirical argument has been presented that the impulses of the dynamics are transmitted as a root cause of the terrorism to the cash receipts from the international tourism. Then the evidenced thesis is set. It is the result from the Granger Causality Tests that gives such arguments that the cause for the dependence and the process provoked by this relationship between terrorism and tourism is from terrorism to tourism, which confirms the set thesis. Theoretically, the empirical results correspond to the theoretical logic, which is derived from the notion that terrorism has taken its peak over in the Middle East, where there was even a state created on a terrorist basis under the name of The Islamic state.

The argument that terrorism is the primary reason for the increase in tourism revenues in Europe and the United States, to a large extent, confirms its creative and destructive nature. Continuing in the same rationale of reasoning and, deepening these reflections, we find that terrorism is born and, to a large extent, governed by the geo-economic and political strategic interests of NATO and the United States. Consequently, the political factor is a determinant about an increase or decrease of the risk of terrorism, and especially about its power and effect on the geographic regions, respectively on the tourist destinations.

Conclusions

In general, the current study introduces a new moment in the research of the problem, manifested in its initial formulation — it assumes that the risk of terrorism creates both uncertainty in a given geographic region and, at the same time, in another area leads to favorable conditions for the development of tourism. It is this dialectical effect that is the core of the empirical analysis, achieved by examining the dependence between the terrorism and the tourism and how this dependence is manifested in Europe and the United States.

The results determine a specific creative-destructive effect of terrorism. Considering the terrorism as a factor and causative variable, it has been established that its increase by a unit leads to a much higher increase in the tourism revenue, which realizes a coefficient of 9.03. Increased financial revenues from international tourism, on the one hand, increasing by one unit, leads to a proportional increase in the risk of terrorism to 1.98. Consequently, the final result is that the increase in the tourism revenue is several times greater than the increase in the risk of terrorism. This result is due to geopolitical factors that lead to diversification, which limits the risk at the expense of a significant increase in revenue. This diversification mechanism is possible because tourist regions are a system of geographic approximations that allow the distribution of the insecurity, which is subjected to political and military control.

The geographic link between Europe and the Middle East is the reason for increasing terrorism in countries such as Iraq and Syria to redirect the tourist flows to the European countries. NATO's political and military intervention in the Middle East is the reason for the terrorism to be directed to Europe and the US, but on the other hand, the political and the military control applied leads to the regulation of the risk of terrorism. The consequence of the described complex geopolitical processes is precisely the

positive influence of terrorism on the increase of tourism revenues in Europe, Russia and the USA.

However, it is necessary to note that each generalizability of the findings appears to constitute a limitation of the research. The social character of the phenomena under research couldn't be ignored and therefore, the countries were explored within their external environment. It is possible that findings of similar studies on different geographical areas will substantially differ. It is in this direction, considering the constant relevance of the chosen topic, that future aspects of the re-search could be identified.

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Annex

Table 1. Countries under consideration for the research

№	Country	Region, according UNWTO
1.	Austria	Europe
2.	Albania	Europe
3.	Bulgaria	Europe
4.	Belgium	Europe
5.	Belarus	Europe
6.	Bosnia and Herzegovina	Europe
7.	United Kingdom	Americas
8.	United States	Europe
9.	Germany	Europe
10.	Georgia	Europe
11.	Greece	Europe
12.	Denmark	Europe
13.	Estonia	Europe
14.	Ireland	Europe
15.	France	Europe
16.	Spain	Europe
17.	Italy	Europe
18.	Lithuania	Europe
19.	Latvia	Europe
20.	Russian Federation	Europe
21.	Romania	Europe
22.	Macedonia-FYR	Europe
23.	Netherlands	Europe
24.	Norway	Europe
25.	Poland	Europe
26.	Portugal	Europe
27.	Slovenia	Europe
28.	Slovak Republic	Europe
29.	Serbia	Europe
30.	Turkey	Europe
31.	Finland	Europe
32.	Hungary	Europe
33.	Croatia	Europe
34.	Czech Republic	Europe
35.	Montenegro	Europe
36.	Switzerland	Europe
37.	Sweden	Europe

Table 2. Correlation Matrix between GTI and ITR

	GTI	ITR
GTI	1	0.42361248
ITR	0.423612480	1

Source: own calculations based on World Bank data and the Global Terrorism Index.

Table 3. Results of the regression analysis between the independent variable ITR and the dependent variable GTI

Dependent Variable: GTI				
Method: Panel Least Squares				
Date: 03/13/18 Time: 16:51				
Sample (adjusted): 2012 2016				
Periods included: 4				
Cross-sections included: 37				
Total panel (balanced) observations: 148				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.356963	0.156468	8.672479	0.0000
ITR	1.99E-11	3.52E-12	5.650567	0.0000
R-squared	0.179448	Mean dependent var		1.762831
Adjusted R-squared	0.173827	S.D. dependent var		1.860507
S.E. of regression	1.691090	Akaike info criterion		3.902045
Sum squared resid	417.5288	Schwarz criterion		3.942548
Log likelihood	-286.7514	Hannan-Quinn criter.		3.918502
F-statistic	31.92890	Durbin-Watson stat		0.315875
Prob(F-statistic)	0.000000			

Source: own calculations based on EViews 10.

Table 4. Results of the regression analysis between the independent variable GTI and the dependent variable ITR

Dependent Variable: ITR				
Method: Panel Least Squares				
Date: 03/13/18 Time: 16:50				
Sample (adjusted): 2012 2016				
Periods included: 4				
Cross-sections included: 37				
Total panel (balanced) observations: 148				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4.51E+09	4.09E+09	1.101944	0.2723
GTI	9.03E+09	1.60E+09	5.650567	0.0000
R-squared	0.179448	Mean dependent var		2.04E+10
Adjusted R-squared	0.173827	S.D. dependent var		3.97E+10
S.E. of regression	3.61E+10	Akaike info criterion		51.46850
Sum squared resid	1.90E+23	Schwarz criterion		51.50900
Log likelihood	-3806.669	Hannan-Quinn criter.		51.48495
F-statistic	31.92890	Durbin-Watson stat		0.076631
Prob(F-statistic)	0.000000			

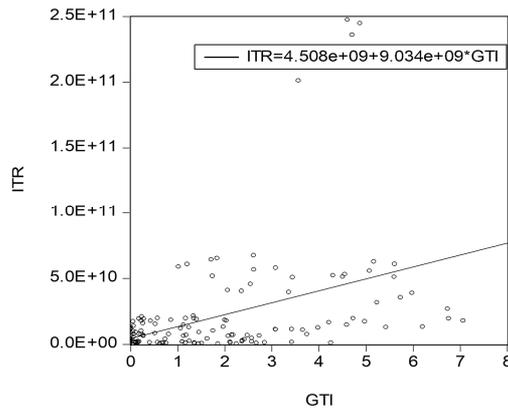
Source: own calculations based on EViews 10.

Table 5. Granger Causality tests results

Pairwise Granger Causality Tests			
Null Hypothesis:	Obs	F-Statistic	Prob.
ITR does not Granger Cause GTI	37	0.57457	0.5686
GTI does not Granger Cause ITR		6.97329	0.0031

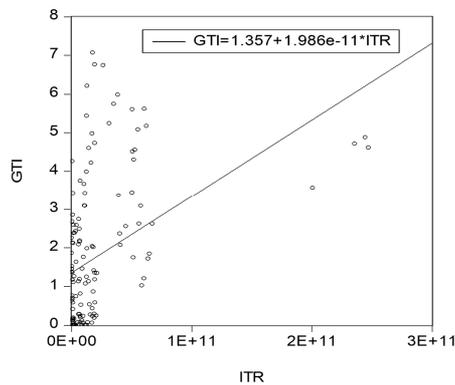
Source: own calculations based on World Bank data and the Global Terrorism Index.

Figure 1. Impact of terrorism on the tourism



Source: own calculations based on World Bank data and the Global Terrorism Index.

Figure 2. Impact of the international tourism revenue on the terrorism



Source: own calculations based on World Bank data and the Global Terrorism Index.