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## Global tourism and waves of terror: Perspectives from military expenditure

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# A G D I Working Paper

WP/19/062

## **Global Tourism and Waves of Terror: Perspectives from Military Expenditure**

Forthcoming: Journal of Policy Research in Tourism, Leisure and Events

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## **Global Tourism and Waves of Terror: Perspectives from Military Expenditure**

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January 2019

### **Abstract**

This study complements existing literature by investigating how military expenditure can modulate the effect of terrorism externalities on tourism. The geographical and temporal scopes are 163 countries and the period 2010-2015. The empirical evidence is based on negative binomial regressions. Terrorism externalities are measured in terms of terror-related incidents, injuries, fatalities and damaged properties. We find that military expenditure significantly lessens the destructive impact of these terror-related incidents in order to induce positive net effects on tourism. This finding is robust to all measurements of terrorism. Homicides and violent demonstrations reduce tourists' arrivals whereas the rate of incarceration of convicted offenders has the opposite effect. The analysis is extended to income levels and regions in order to provide more opportunities for policy implications. Justifications for differences in these comparative tendencies are discussed.

*JEL Classification:* D74; H56; Z32; Z38

*Keywords:* Military Expenditure; Terrorism; Tourism

## Introduction

Two main tendencies in the extant literature motivate the positioning of this study notably: a debate on the relevance of military expenditure in mitigating the number and destructive effects of terrorist attacks and gaps in the literature. The propensities are further substantiated in the same order as they are highlighted.

*First*, a recent stream of literature has been motivated by a debate on the ineffectiveness of military measures as policies towards counterterrorism (Feridun & Shahbaz, 2010; Asongu, Tchamyou, Asongu, & Tchamyou, 2017a). According to the main narrative, a consensus exists in the literature on the position that military expenditure does not reduce the incidence of terrorism. While intuitively, one can expect military spending to negatively impact on the number and damaging effects of terrorism; this intuition is not supported by empirical evidence. On the contrary, such counterterrorism measures have been shown to provoke more terrorist attacks (Sandler, 2005). This position is consistent with the assertion by Lum, Kennedy, and Sherley (2006) that decades of concerted efforts by the United States Government at countering terror-related attacks have further fuelled the phenomenon both in the country itself and its ally nations. Then too, Feridun and Shahbaz (2010) concluded that causality is from terrorism to “spending in defense” and not the opposite. Further, Omand (2005) posited that such counteracting actions against terrorism are not effective because of the absence of commonly acceptable long-run and comprehensive counterterrorism strategies around the world.

The positioning of our study contributes to the foregoing debate by departing from a direct assessment of the potential relevance of military spending on terrorism. We argue that the broad consensus in the literature on the ineffectiveness of military measures on terrorism could be due a lack of consideration of the possible indirect interactions between them. The modelling approach in this study is based on a series of interactive regressions so that the military expenditure measures are combined with indicators of terrorism externalities to affect a development outcome.

*Second*, the gaps in the literature can be discussed in two major strands. The first involves studies on the relationship between military interventions, foreign occupation and terrorism. The second examines the connection between military involvements and tourism.

With respect to the first aspect of the literature, Collard-Wexler, Pischedda, and Smith (2014) investigated whether foreign occupation increases the rate of suicide terrorist attacks. They concluded that the former significantly increases the prevalence of the latter. Also, Choi and Piazza (2017) examined if military interventions affected terrorist suicide attacks. It was

reported that exceptionally, the intervention from foreign nations (e.g. interventions that are pro-government and entail a high number of ground troops) positively affect suicide attacks in countries in which there is military intervention. Asongu and Amankwah-Amoah (2018) assessed whether military expenditure could be instrumental in modulating the effect of terrorism on capital flight. They established that contingent on set terrorist targets, a threshold of military spending between 4.224 and 7.363 percent of GDP is necessary in order to completely dampen the negative consequences of terrorism on capital flight.

In terms of the second part of the literature which focused exclusively on the relationship between military interventions and tourism, Fletcher and Morakabati (2008) found that military interferences exert negative effects on tourism in Kenya and Fiji. Additionally, Mansfeld and Pizam (2006), noted that tourists' arrivals and civil wars are highly correlated in the sense that the latter discourages the former. Tourism may even be non-existent in the event of protracted and severe civil wars, such as the recent case of Syria (Mehmood, Ahmad, & Khan, 2016). After the Turkish invasion in 1974, tourism in Cyprus was substantially adversely affected (Sharples, 2003; Farmaki, Altinay, Botterill, & Hilke, 2015). In summary, the damaging impact of wars on the tourist industry of a nation is not exclusively restricted to the number of tourist arrivals. It also extends to the overseas image of the destination country over a long term. For instance, the conflict between South Korea and North Korea has exerted a considerable damaging influence on the tourist sector in South Korea (Rittichainuwat & Rattanaphinanchai, 2015).

We extend the two strands of literature by using military expenditure as a proxy for pro-active security, which is contrary to the established evidence on the role of military interventions on tourism. Accordingly, despite the negative consequences that military interferences such as coups may have on the tourist industry, the importance of military spending has been recognised as an armoury in the fight against terrorism in order to boost human development outcomes (Asongu *et al.*, 2017a ; Asongu & Amankwah-Amoah, 2018). In theory, terrorists' agents may be discouraged to carry out attacks in the knowledge of the military spending capacity of the targeted countries. The positioning on this study on the indirect determinants of tourism by means of the interaction between policy syndromes<sup>1</sup> and

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<sup>1</sup> With respect to Fosu (2013), policy syndromes reflect circumstances that were not conducive for economic growth in the post-independence era in Africa. These include: 'administered redistribution', 'state breakdown', 'state controls', and 'suboptimal inter temporal resource allocation'. Asongu (2018a) considers policy syndromes as issues that merit policy action in order to achieve sustainable development. For Asongu (2017), a policy syndrome is a gap in knowledge economy while Asongu and Nwachukwu (2017a) consider it as growth that is exclusive (i.e. non-inclusive). Within the context of this study, policy syndromes are externalities of terrorism, notably: terror-related incidents; injuries, fatalities; and damaged properties.

policy variables departs from mainstream literature which has largely focused on direct determinants and deterrents of tourist arrivals (Sönmez, Apostolopoulos, & Tarlow, 1999; Pizam & Fleischer, 2002; Kingsbury & Brunn, 2004; Sönmez & Graefe, 1998; Correia, Silva, & Moço, 2008; Yuksel & Yuksel, 2008; Chhabra, 2009; Saha & Yap, 2013; Alvarez & Campo, 2014; Mehmood *et al.*, 2016).

In the light of the above argument, by assessing the relevance of military expenditure in moderating the effect of terrorism on tourism, this study contributes to the debate on the significance of military expenses in directly fighting terrorism along the lines discussed in the first strand. In addition, it extends the tourism literature by examining the relevance of military expenditure in moderating terrorism in order to promote the development of the tourist industry. Therefore, the key objective of the present study is to investigate how a policy variable (represented by military expenditure) can be used to curb the potential negative influences of policy syndromes (approximated by terror-related incidents, injuries, fatalities and damaged properties) on tourist arrivals. The research question which the study aims to answer is stated as follows: how does military expenditure modulate the damaging effect of terrorism externalities on tourism across the world?

It is important to note that peace and terrorism factors have been documented to affect tourism (Asongu, Nnanna, Biekpe & Acha-Anyi, 2019a) and while security officers and the police have also been established to mitigate homicide (Asongu, Nwachukwu & Pyke, 2019b) and drive tourism (Asongu, Uduji & Okolo-Obasi, 2019c), the role of military expenditure in modulating terrorism externalities in order to promote tourism has not been adequately explored. The theoretical underpinning which is related to the Wound Culture Theory (WCT) is discussed in the next section.

## **Theoretical underpinnings and literature review**

### ***Theoretical underpinnings***

The Wound Culture Theory (WCT) is the theoretical underpinning motivating the study. This is essentially because; intuitively military capability can be used to assuage the wound culture that reinforces the motivation for resorting to violence and other terrorism channels. As emphasized by Gibson (2006), the WCT which was first proposed by Mark Seltzer (1998) can be summarized in the following (p. 19):

*“Serial killing has its place in a public culture in which addictive violence has become not merely a collective spectacle but one of the crucial sites where private desire and public fantasy cross. The convening of the public around scenes of violence—the rushing to the scene*

*of the accident, the milling around the point of impact—has come to make up a wound culture; the public fascination with torn and open bodies and torn and open persons, a collective gathering around shock, trauma, and the wound”.*

With respect to the WCT, the objective of shattering the human body is often harbored by individuals in society. Such an intention to rip the human body is both literal (i.e. via mutilation) and figuration (via criticism). The importance of serial killings is considered as a common denominator that motivates citizens to engage in wound appreciation: *“One discovers again and again the excitations in the opening of private and bodily and psychic interiors; the exhibition and witnessing, the endlessly reproducible display, of wounded bodies and wounded minds in public. In wound culture, the very notion of sociality is bound to the excitations of the torn and open body, the torn and exposed individual, as public spectacle”* (Seltzer, p. 137). It is further observed by Seltzer that the wound theory has considerable ramifications in the formation of citizens’ attitude: *“The spectacular public representation of violated bodies, across a range of official, academic, and media accounts, in fiction and in film, has come to function as a way of imagining and situating our notions of public, social, and collective identity (p.21).”*

The policy syndromes (i.e. terrorism incidents, injuries, fatalities and damaged properties) used in the study, are associated with a wound culture which, can intuitively be mitigated by military expenditure in order to promote the image of the country overseas with a concomitant increase in tourism. Beyond emphasis on theoretical underpinnings, the study could also be a theory-building exercise because applied econometrics is not exclusively limited to the acceptance and rejection of existing theories. Hence, we are consistent with recent literature in arguing that applied econometrics based on sound intuition is a useful scientific activity (Costantini & Lupi, 2005; Narayan, Mishra, & Narayan, 2011; Asongu, Tchamyou, Minkoua, Asongu, & Tchamyou, 2018). Moreover, we do not argue that the government makes decisions regarding military spending, exclusively on the basis of tourist arrivals. Governments make such decisions on the basis of economic development outcomes, of which the tourist industry is among.

#### ***Literature review: perceived risk and tourism***

It is important to discuss the connection between perceived risk and tourism. Terrorism externalities translate into perceived risk that discourages tourist arrivals. In the same vein, it is the role of forces of law and order (which are used as policy variables in this study) to mitigate such perceived risk in order avoid the discouragement of tourist arrivals. In

essence, a broad stream of tourism literature supports the position that safety is a fundamental need for people in every society and that tourists avoid destinations in which they have high perceived risks for their safety (Sönmez *et al.*, 1999; Pizam & Fleischer, 2002; Kingsbury & Brunn, 2004). This narrative is consistent with another stream of literature emphasising the position that the choice of a tourism destination is contingent on safety considerations (terrorism, civil unrest, regional conflict, political instability or crime), which affect a destination's desirability, security, comfort and image (e.g., Ryan, 1993; Tarlow, 2006; Pizam & Mansfeld, 2006; Seabra, Dolnicar, Abrantes, & Kastenholz, 2013). The perilous effect of the underlying security features has substantial impacts on tourists' perception of risk regarding the tourism destination (see Lepp, Gibson, & Lane, 2011). This is very fundamental owing to the fact that the perception of risk in one country can influence the perception of risk in neighbouring countries which may not be directly engaged in a conflict or directly connected with the concern about insecurity (Lepp & Gibson, 2003). This narrative is consistent with the consequences of the Gulf war on tourist destinations in Kenya and Tanzania (Honey, 1999) and the impact of the Syrian war on the Turkish (Yaya, 2009) and Jordanian (Liu, Schroeder, Pennington-Gray, & Farajat, 2016) tourism industries. It follows that regional conflict, wars, civil unrest, political instability and terrorism are becoming global concerns for tourists communities and the tourism industry as a whole (Mansfeld & Pizam, 2006).

Terrorism represents a principal source of issues negatively affecting tourist destinations. There is a bulk of literature which maintains that terrorism induces anxiety and fear in future tourists and hence affects their levels of perceived risks (see Drakos & Kutan, 2003; Kapuściński & Richards, 2016). Within this framework, terrorism is conceived and defined as the calculated measures that leverage on the threat of diabolic force and/or violence to instil fear within society in order to meet goals that may be political, social and/or religious. According to Hoffman (2006), terrorism is a plot with the purpose of materialising substantial psychological impacts on and beyond attack targets. Hence, with the occurrence of a violent act in a destination country, with the purpose of generating chaos in society (by means of hijacking, terror, murder and sabotage), the perception of risk increases while the desire to visit the corresponding country as a tourist destination decreases (Shin, 2005). For instance, as documented by Pizam (1999), the higher the frequency for violent and criminal activities, the greater their effect on the demand for tourism. Moreover, Llorca- Vivero (2008) has analyzed the tendency of tourist arrivals in G-7 countries, against terrorism activities in the 134 destination countries to conclude that both international and domestic terrorism have a



significant effect on tourist arrivals. Goldman and Neubauer-Shani (2017) establish a significant nexus between tourist arrivals and terror incidents in a country. Moreover, incidences of terrorism in a Middle Eastern and/or Islam-dominated country have spillover effects across the region (Taylor, 2006; Neumayer & Plumper, 2016). In summary, there is a broad stream of literature supporting the evidence that terrorist attacks limit the demand for tourism destinations in which the underlying attacks occur, notably: in Spain (Enders & Sandler, 1991); China (Gartner & Shen, 1992); United States (Lepp & Gibson, 2003), Pakistan (Raza & Jawaid, 2013); Israel, Greece and Turkey (Drakos & Kutun, 2003) and Nepal (Bhattarai, Conway, & Shrestha, 2005). It is important to note that the narrative on this strand is consistent with the Wound Culture Theory underpinning this study which has been discussed, prior.

Apart from the literature suggesting the negative effect of terrorism on tourists' arrivals, there is also a small strand of the literature maintaining that such an effect may either be insignificant or positive. For instance, Saha and Yap (2013) have established that terrorists' attacks have a positive incidence on tourist arrivals in countries characterized with low to moderate political-risk. In the same vein, when analyzing tourist's resilience and vulnerability to terrorism, Liu and Pratt (2017) show that the incidence on tourism from terrorism varies with destinations and the effect is contingent on initial income, tourism and political stability levels in the sampled 95 countries. Some findings have established that the continuous emphasis on tourists' hot spots in a risky destination reduces the perception of risk from tourists in the long term (Pizam & Mansfeld, 2006). Such emphasis could be on the effectiveness of forces of law and order in maintaining peace and stability. This inference which is partly motivating the positioning of our study is consistent with Shin (2005) who has emphasized that a precondition for the success of a tourism destination is peace and security, which is maintained by forces of law and order, used in our study as a policy variable.

In spite of the sparse literature on a positive connection between tourism and terrorism, the literature is substantially dominated by the deterrent role of terrorism on tourism. Moreover, while a terrorist incident can have a short term paralyzing effect on tourists' arrivals in destination countries (Liu & Pratt, 2017; Coshall, 2003), continuous conflicts and political conflicts generate more substantial and far-reaching impacts (Sönmez & Graefe, 1998; Saha & Yap, 2013). In essence, political turmoil can substantially limit travels to areas affected by the underlying political terror as well as create a lasting wall to international tourism (Sönmez, 1998). For instance, countries such as Israel and Palestine that are constantly confronted with State crisis are associated with a reducing number of tourist

arrivals (Alvarez & Campo, 2014; Mehmood *et al.*, 2016). In the same vein, the tourism industry of Bosnia and Herzegovina has been negatively affected by the recent phase of political instability (Causevic & Lynch, 2013).

Military coups also have a negative effect in the development of the tourism industry. Fletcher and Morakabati (2008) have established that such is the case in Kenya and Fiji. According to Mansfeld and Pizam (2006), there is a correlation between civil wars and tourist arrivals. An eloquent recent case is Syria: a country where terrorism is almost non-existent because of the ongoing civil war (Mehmood *et al.*, 2016). Tourism in Cyprus was substantially curtailed by the Turkish invasion in 1974 (Sharpley, 2003; Farmaki *et al.*, 2015). Significant nexuses are apparent in linkages between tourism, terrorism and economic growth in Thailand (Fareed, Meo, Zulfiqar, Shahzad & Wang, 2018) and connections between terrorism and tourism in Greece (Samitas, Asteriou, Polyzos & Kenourgios, 2018). Furthermore, the effect of wars on a country's tourism industry is not limited to the number of tourist arrivals but well extend to the destination's image in the long term. For example, in South Korea, tourism has been extensively influenced by the nature of conflict between the North and the South (Rittichainuwat & Rattanaphinanchai, 2015).

In the light of the above, despite the apparent strong linkage between terrorism, peace and tourism, the extant literature has not engaged the role of forces of law and order in mitigating the negative effect of terrorism on tourists' arrivals. The missing gap is addressed in the sections that follow.

### **Data and methodology**

This study uses a panel of 163 countries for the period 2010 to 2015. The data comes from a multitude of sources, notably: the Institute for Economics and Peace (IEP), the United Nations (UN) Committee on Contributions, the Operations of Criminal Justice Systems (CTS), the International Institute for Strategic Studies (IISS), the UN Office on Drugs and Crime (UNODC) Surveys on Crime Trends, the Uppsala Conflict Data Program (UCDP) Battle-Related Deaths Dataset and Qualitative assessments by Economic Intelligence Unit (EIU) analysts' estimates. The geographical and temporal scopes of the study are contingent on constraints in data availability: a justification that is in accordance with recent literature (Asongu, 2018b; Asongu & Acha-Anyi, 2019).

The economic development outcome indicator is the number of tourist arrivals; the policy variable is military expenditure while the policy syndromes or terrorism externalities

are captured by four main variables, namely: terror-related incidents, injuries, fatalities, damaged properties. The choice of the outcome variable, policy variable and policy syndromes is motivated by the literature on the determinants of tourism, terrorism, violence and crimes discussed earlier (see Blanco & Grier, 2009; Freytag, Kruger, Meierrieks, & Schneider, 2011; GPI, 2016; Asongu & Kodila-Tedika, 2016, 2017; Asongu & Nwachukwu, 2017b).

Four main control variables are adopted in this study, namely: homicides, incarceration of convicted offenders, likelihood of violent demonstrations and the number of armed service personnel. The selection of these variables in the conditioning information set is consistent with existing studies on the determinants of tourism (Sönmez & Graefe, 1998; Pizam & Fleischer, 2002; Sönmez *et al.*, 1999; Alvarez & Campo, 2014; Kingsbury & Brunn, 2004; Mehmood *et al.*, 2016; Saha & Yap, 2013). We expect homicides and violent demonstrations to negatively influence tourist arrivals while the incarceration of convicted offenders and armed service personnel should have the opposite effect.

The definitions and sources of variables are provided in Appendix 1 whereas Appendix 2 discloses the summary statistics (Panel A) and sampled countries (Panel B). The corresponding correlation matrix is provided in Appendix 3. From the descriptive statistics, it is apparent that the standard deviation of the outcome variable is considerably higher than its corresponding mean. This is an indication that a negative binomial regression is an appropriate model of estimation. Moreover, the outcome variable is positively skewed, which further justifies the need for an estimation technique that is not contingent on a normal distribution. In accordance with recent literature on the analysis of positively-skewed data (Choi & Luo, 2013; Choi, 2015), a negative binomial regression is adopted in this study. It follows that the main justification for adopting negative binomial regressions as empirical strategy is because tourist arrivals or the outcome variable is count data.

In the corresponding regressions, the mean of  $y$  is determined by the exposure time  $t$  and a set of  $k$  regressor variables (the  $x$ 's). The expression relating these quantities is disclosed in Equation (1) below:

$$\mu_i = \exp(\ln(t_i) + \beta_1 x_{1i} + \beta_2 x_{2i} + \dots + \beta_k x_{ki}), \quad (1)$$

where,  $x_1 \equiv 1$  and  $\beta_1$  is the intercept.  $\beta_1, \beta_2, \dots, \beta_k$  correspond to unknown parameters to be estimated. Their approximations are symbolized as  $b_1, b_2, \dots, b_k$ . The fundamental negative binomial regression model for an observation  $i$  is disclosed in Equation (2) below:

$$\Pr(Y = y_i | \mu_i, \alpha) = \frac{\Gamma(y_i + \alpha^{-1})}{\Gamma(\alpha^{-1})\Gamma(y_i + 1)} \left( \frac{1}{1 + \alpha\mu_i} \right)^{\alpha^{-1}} \left( \frac{\alpha\mu_i}{1 + \alpha\mu_i} \right)^{y_i}, \quad (2)$$

where,  $\mu_i = t_i\mu$  and  $\alpha = \frac{1}{\nu}$  in the generalised Poisson distribution which includes a gamma noise variable with a mean of 1 and a scale of  $\nu$ . The parameter  $\mu$  represents the mean incidence rate of  $y$  per unit of exposure or time. Hence,  $\mu$  is the risk of a new occurrence of the event during a specified exposure period,  $t$  (NCSS, 2017). Consistent with recent literature (see Mlachila, Tapsoba, & Tapsoba, 2017; Asongu, Anyanwu, & Tchamyou, 2017b), the independent variables are lagged by one year in order to control for endogeneity.

## **Empirical results**

### **Presentation of results**

The empirical results are disclosed in this section. Table 1 is presented in two main panels. Whereas Panel A focuses on estimations without a conditioning information set (or control variables), Panel B presents estimations that involve a conditioning information set. In order to examine the role of military expenditure in modulating the effect of terrorism externalities on tourism, net effects are computed, consistent with extant studies based on interactive regressions (Tchamyou, 2019a; Tchamyou & Asongu, 2017).

Given the above insights, in the last column of Table 1, the net effect from role of military spending in controlling the consequences of “terrorism-related property damages” on tourism is 0.360  $([-0.291 \times 1.966] + [0.933])$ , where: 0.933 is the unconditional impact from “terrorism-related property damages”; 1.966 is the mean value of military expenditure and -0.291 is the conditional effect from the interaction between the military expenses and “terrorism-related property damages”.

Three major findings are established in Table 1.

*First*, net effects are not apparent in regressions without control variables because at least one of the estimations (unconditional, conditional or both) needed for the computation of net effects is not statistically significant. Conversely, net effects are obvious in all regressions with control variables. This is logical because in the real world, terrorism, military expenditure and tourism do not interact in isolation. Hence, other factors that are exogenous to tourism (provided by the conditioning information set) are worthwhile in order to avoid issues of variable omission bias.

*Second*, military expenditure tempers terrorism in order to induce positive net effects on tourism. This finding is robust to all terrorism externalities considered, namely: terror-related incidents, injuries, fatalities, and damaged properties.

*Third*, the statistically significant control variables display the expected signs. Accordingly, as predicted, homicides and violent demonstrations reduce tourists' arrivals whereas the rate of incarcerations of convicted offenders has the opposite effect. Although the effect of "armed service personnel" is not significant, it has the expected positive sign.

The overwhelming positive net effects is consistent with the theoretical expectations of this study, notably, that terrorism-oriented policy syndromes which are linked to wound culture can be modulated by military spending in order to increase economic development outcomes (which includes tourism). Accordingly, the image of the country for tourism purposes can be increased with the knowledge that the potential terrorism externalities can be tackled with military measures that are associated with enhanced military expenditure.

The specifications in which net effects cannot be computed are largely traceable to specifications that do not involve the conditioning information set. The absence of net effects can be understood in the following: the interaction between military expenditure and terrorism externalities is a necessary but not a sufficient condition for the promotion of tourism. Accordingly, in order for the anticipated positive net effect to occur, other macroeconomic factors should be involved in the conditioning information set. This is logical because in a real world, the underlying interactions are not apparent in isolation.

**\*\*INSERT Table 1 ABOUT HERE\*\***

### **Extension with income levels and regions**

In order to create opportunities for policy implications, the empirical model in equation 1 above is extended to include income levels and regions. Consistent with the recent development in the literature, the inclusion of these fundamental characteristics also helps to account for some of the unobserved heterogeneity that is exogenous to the tourist industry (Narayan *et al.*, 2011; Asongu, 2013, 2014; Beegle, Christiaensen, Dabalen, & Gaddis, 2016; Mlachila *et al.*, 2017; Asongu & le Roux, 2017). The corresponding income levels include: high income, upper middle income, lower middle income and low income nations while selected regions are South Asia, Europe and Central Asia, East Asia and the Pacific, Middle East and North Africa, sub-Saharan Africa and Latin America.

**\*\*INSERT Table 2 ABOUT HERE\*\***

**\*\*INSERT Table 3 ABOUT HERE\*\***

The following findings are observable in Table 2 with regard to decomposition by income levels. In Panel A, compared to low income countries, high income countries are more susceptible to the interaction of military expenditure with terrorism externalities, leading to an overall positive net effect on tourism. This tendency is confirmed in Panel B, where such estimated positive military spending-terrorism externalities net effects in the group of upper middle income countries are comparatively higher than the positive net effects reported for the sample of lower middle income countries.

In Table 3, Panel A, we present the results for the group of South Asia and Europe and Central Asia countries while in Panel B we disclose the findings for East Asia and the Pacific and Latin America and the Caribbean. Panel C shows results for the Middle East and North Africa and Sub-Saharan Africa. The estimated positive net effects from the implied interactions between military spending-terrorism externalities are visible in South Asia, Latin America and the Caribbean as well as the Middle East and North Africa. By contrast, the same combinations between military spending and terrorism externalities do not yield significant net effects in our sample of Europe and Central Asia, East Asia and the Pacific and Sub-Saharan Africa countries.

In what follows, we discuss the economic development relevance of the tendencies observed in the comparative findings. Higher income countries are more likely to effectively use military disbursements in a manner that mitigates the potential damaging consequences of terrorism externalities on the tourist sector. Alipour and Kilic (2005), Fosu (2013), Anyanwu and Erhijakpor (2014) and Efobi (2015) noted that these rich nations have the general infrastructure including logistics, finance and institutions that considerably improve the effectiveness of military spending and its deployment in the planning and execution of tourist trade. Moreover, our results are supported by the perception in recent terrorism literature that, compared to low income countries, the quality of infrastructural arrangements in high income countries helps to assuage the negative externalities of terrorism on economic development outcome (Gaibullov & Sandler, 2009; Asongu & Kodila-Tedika, 2017). The exception of

“Europe and Central Asia” may be traceable to the weight of Central Asian countries in the terrorism measurements. The regional findings are broadly consistent with the comparative tourism literature: *“It was found that geographical regions were constructed in three broad ways: some places, such as Europe and North America, were perceived as safe; Africa, was seen as dangerous and to be avoided; and finally, Asia was constructed as simultaneously risky but also exotic and worth experiencing”* (Carter, 1998, p.349).

### **Concluding implications and Future Research Directions**

This study has complemented existing literature by investigating how military expenditure can modulate the effect of terrorism externalities on tourism. Terrorism externalities are measured in terms of terror-related incidents, injuries, fatalities and damaged properties. The geographical and temporal scopes are 163 countries and the period 2010-2015. The empirical evidence is based on negative binomial regressions with and without income levels and regions.

The results of the basic and extended negative binomial regression analysis indicate that: Military spending significantly lessens the potential adverse consequences of terrorism with concomitant positive net effects on tourist arrivals. This finding is robust to all terrorism externalities. Homicides and violent demonstrations reduce tourists’ arrivals whereas the rate of incarcerations of convicted offenders has the reverse effect. Compared to low income countries, military spending in high income countries are associated with a higher positive net effect on tourism. Such a tendency is confirmed when upper middle income countries are compared with lower middle income countries. Moreover, the estimated positive net effects of the implied interactions between military expenditure-terrorism externalities are apparent only in our sample of South Asia, Latin America and the Caribbean and the Middle East and North Africa countries. Potential justifications for the lack of comparable significant positive net effects in Europe and Central Asia, East Asia and the Pacific as well as Sub-Saharan Africa were discussed. Such included the paucity of infrastructural arrangements including logistics, finance and institutions that considerably diminish the effectiveness of military spending and its deployment in the planning and execution of tourist trade.

In the light of the positioning of this study (articulated in the introduction), the established findings have complemented existing literature in two key ways: *First*, contrary to the mainstream literature on the inefficiency of military expenditure in directly controlling the adverse economic consequences of terrorism (Sandler, 2005; Omand, 2005; Lum *et al.*, 2006

; Feridun & Shahbaz, 2010), we have confirmed that military disbursements can indirectly moderate terrorism externalities in order to influence positive economic development outcomes. *Second*, whereas military intercessions such as coups have been established in the literature to discourage tourist arrivals (Sharpley, 2003; Fletcher & Morakabati, 2008; Mansfeld & Pizam, 2006; Farmaki *et al.*, 2015; Rittichainuwat & Rattanaphinanchai, 2015; Mehmood *et al.*, 2016), we have shown in this study that military expenditure (which is not synonymous to military intrusion) can theoretically play both pro-active (i.e. preventive and figurative) and active (i.e. literal and real) roles in the discouraging terrorism. In what follows, some attendant policy implications are discussed.

First, the fact that net effects are not largely apparent in specifications without a conditioning set implies that increased military spending should be engaged within a framework of complementary macroeconomic factors. Accordingly, the interactions between policy syndromes and policy variables to influence an outcome such tourism are not in isolation but require other complementary measures (i.e. that are determinants of tourism) to be involved in the conditioning information set.

Second, building on evidence from the literature, military actions associated with military spending should be tailored with the insight that less repressive policies are fundamental because excessive repression can be eventually counter-productive. Hence, should be linked with other policy initiatives that mitigate potential avenues of terrorism, *inter alia*, such complementary measures can be tailored to delivery more public commodities, reduce income inequalities and enhance education programs designed to sensitize the population of sampled countries on the perilous economic ramifications of terrorism.

Third, drivers of terrorism can also be acknowledged as a concern of public health, such that preventive actions and public information on the negative effect of the scourge can be encourage through novel social media and information networks, especially as it pertains to social wellbeing campaigns and societal education. Preventive programs can also be oriented towards terrorism hotspots that are likely to also be associated with high levels of crime and economic inequalities.

Fourth, beyond military intervention, less aggressive modes of terrorism prevention and mitigation should also be considered. Within this framework, diplomatic mechanisms to addressing terrorism-oriented concerns should also be taken on board. Hence, while a military action can be considered an option of fighting terrorism, it should always be used as a measure of last resort after all diplomatic and less aggressive measures have been considered.



When these non-military measures are explored, new information technology tools should be used to keep the international community constantly aware of the options being taken to reduce potential terrorism externalities. Such information can prevent the discouragement of tourists' arrivals because tourists are more likely to choose a tourist destination that is not characterized by war, owing to military intervention compared to one that is characterized by war on terror.

Future research can focus on investigating whether the established findings withstand empirical scrutiny within country-specific dimensions. Such idiosyncratic cases are relevant for more targeted or country-specific policy implications.

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**Table 1: Negative Binomial Regressions**

	Dependent variable: Number of Tourist Arrivals							
	Without control variables				With control variables			
Constant	<b>15.150***</b> (0.000)	<b>15.448***</b> (0.000)	<b>15.470***</b> (0.000)	<b>15.359***</b> (0.000)	<b>15.980***</b> (0.000)	<b>16.356***</b> (0.000)	<b>16.392***</b> (0.000)	<b>16.182***</b> (0.000)
Military Expenditure(ME) (-1)	0.098 (0.457)	0.127 (0.296)	0.051 (0.682)	0.051 (0.654)	0.020 (0.821)	-0.083 (0.353)	-0.097 (0.305)	-0.018 (0.818)
Terrorism incidents(-1)	<b>0.548***</b> (0.001)	---	---	---	<b>0.721***</b> (0.000)	---	---	---
Terrorism fatalities(-1)	---	0.259 (0.112)	---	---	---	<b>0.426***</b> (0.000)	---	---
Terrorism injuries(-1)	---	---	0.245 (0.052)	---	---	---	<b>0.359***</b> (0.000)	---
Terrorism-related property damages(-1)	---	---	---	<b>0.593***</b> (0.000)	---	---	---	<b>0.933***</b> (0.000)
Terrorism incidents×ME(-1)	-0.122 (0.102)	---	---	---	<b>-0.209***</b> (0.000)	---	---	---
Terrorism fatalities×ME(-1)	---	-0.096 (0.239)	---	---	---	<b>-0.139***</b> (0.007)	---	---
Terrorism injuries×ME(-1)	---	---	-0.050 (0.404)	---	---	---	<b>-0.091**</b> (0.027)	---
Terrorism-related property damages×ME(-1)	---	---	---	-0.132 (0.177)	---	---	---	<b>-0.291***</b> (0.000)
Homicides(-1)	---	---	---	---	<b>-0.509***</b> (0.000)	<b>-0.591***</b> (0.000)	<b>-0.559***</b> (0.000)	<b>-0.532***</b> (0.000)
Incarceration(-1)	---	---	---	---	<b>0.684***</b> (0.000)	<b>0.736***</b> (0.000)	<b>0.706***</b> (0.000)	<b>0.701***</b> (0.000)
Violent demonstrations(-1)	---	---	---	---	<b>-0.453***</b> (0.000)	<b>-0.380***</b> (0.000)	<b>-0.414***</b> (0.000)	<b>-0.431***</b> (0.000)
Armed Services Personnel(-1)	---	---	---	---	0.111 (0.370)	0.108 (0.402)	0.100 (0.434)	0.076 (0.540)
Net effects	na	na	na	na	0.310	0.152	0.180	0.360
Log likelihood	-9568.759	-9594.048	-9586.963	-9576.344	-9434.054	-9464.079	-9457.072	-9441.240
Likelihood Ratio (LR) Chi-Square	<b>56.18***</b>	5.60	<b>19.77***</b>	<b>41.01***</b>	<b>325.59***</b>	<b>265.54***</b>	<b>279.55***</b>	<b>311.22***</b>
Alpha	<b>1.851***</b>	<b>1.965***</b>	<b>1.932***</b>	<b>1.884***</b>	<b>1.3290***</b>	<b>1.433***</b>	<b>1.408***</b>	<b>1.353***</b>
Observations	580	580	580	580	580	580	580	580

\*\*\*, \*\*, \*: significance levels at 1%, 5% and 10% respectively. Mean value of Military Expenditure: 1.966. Min and Maximum values of Military Expenditure are respectively 1.000 and 5.000. na: not applicable due to the insignificance of unconditional effects of insecurity variables and/or conditional effect from the interaction between the security policy variable and insecurity variables.

**Table 2: Decomposition by Income Levels**

Dependent variable: Number of Tourist Arrivals								
Panel A: Low and High Income countries								
	Low Income				High Income			
Constant	<b>12.281***</b> (0.000)	<b>12.294***</b> (0.000)	<b>12.222***</b> (0.000)	<b>12.242***</b> (0.000)	<b>16.61***</b> (0.000)	<b>17.01***</b> (0.000)	<b>16.914***</b> (0.000)	<b>16.650***</b> (0.000)
Military Expenditure(ME) (-1)	-0.040 (0.825)	-0.006 (0.969)	0.020 (0.896)	-0.013 (0.920)	<b>0.273*</b> (0.070)	0.223 (0.190)	0.268 (0.101)	<b>0.321**</b> (0.023)
Terrorism incidents(-1)	-0.004 (0.987)	---	---	---	<b>0.674***</b> (0.001)	---	---	---
Terrorism fatalities(-1)	---	-0.019 (0.945)	---	---	---	0.255 (0.562)	---	---
Terrorism injuries(-1)	---	---	0.109 (0.550)	---	---	---	<b>0.786***</b> (0.000)	---
Terrorism-related property damages(-1)	---	---	---	0.174 (0.625)	---	---	---	<b>0.931***</b> (0.001)
Terrorism incidents×ME(-1)	0.015 (0.921)	---	---	---	-0.119 (0.161)	---	---	---
Terrorism fatalities×ME(-1)	---	-0.002 (0.985)	---	---	---	0.009 (0.953)	---	---
Terrorism injuries×ME(-1)	---	---	-0.051 (0.582)	---	---	---	<b>-0.155*</b> (0.083)	---
Terrorism-related property damages×ME(-1)	---	---	---	-0.065 (0.716)	---	---	---	<b>-0.223*</b> (0.061)
Control variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Net Effects	na	na	na	na	na	na	0.481	0.492
Log likelihood	-1727.864	-1727.851	-1727.748	-1727.72	-2855.545	-2873.145	-2864.588	-2862.349
Likelihood Ratio Chi-Square	<b>32.65***</b>	<b>32.68***</b>	<b>32.88***</b>	<b>32.94***</b>	<b>90.83***</b>	<b>55.63***</b>	<b>72.75***</b>	<b>77.23***</b>
Alpha	<b>0.937***</b>	<b>0.936***</b>	<b>0.935***</b>	<b>0.935***</b>	<b>0.742***</b>	<b>0.880***</b>	<b>0.810***</b>	<b>0.793***</b>
Observations	119	119	119	119	166	166	166	166

  

Panel B: Lower Middle Income and Upper Middle Income levels								
	Lower Middle Income				Upper Middle Income			
Constant	<b>16.760***</b> (0.000)	<b>16.429***</b> (0.000)	<b>16.271***</b> (0.000)	<b>16.941***</b> (0.000)	<b>16.983***</b> (0.000)	<b>18.038***</b> (0.000)	<b>18.030***</b> (0.000)	<b>16.864***</b> (0.000)
Military Expenditure(ME) (-1)	-0.255 (0.143)	<b>-0.269*</b> (0.099)	-0.182 (0.303)	<b>-0.286*</b> (0.069)	-0.209 (0.507)	<b>-0.636**</b> (0.038)	<b>-0.566*</b> (0.077)	-0.136 (0.628)
Terrorism incidents(-1)	<b>0.457***</b> (0.001)	---	---	---	<b>1.316**</b> (0.000)	---	---	---
Terrorism fatalities(-1)	---	<b>0.494***</b> (0.000)	---	---	---	<b>0.925***</b> (0.001)	---	---
Terrorism injuries(-1)	---	---	<b>0.481***</b> (0.000)	---	---	---	<b>0.834**</b> (0.033)	---
Terrorism-related property damages(-1)	---	---	---	<b>0.578***</b> (0.000)	---	---	---	<b>2.010***</b> (0.000)
Terrorism incidents×ME(-1)	<b>-0.149**</b> (0.024)	---	---	---	<b>-0.401***</b> (0.007)	---	---	---
Terrorism fatalities×ME(-1)	---	<b>-0.155**</b> (0.012)	---	---	---	<b>-0.219*</b> (0.083)	---	---
Terrorism injuries×ME(-1)	---	---	<b>-0.152**</b> (0.010)	---	---	---	<b>-0.220*</b> (0.096)	---
Terrorism-related property damages×ME(-1)	---	---	---	<b>-0.199***</b> (0.007)	---	---	---	<b>-0.670***</b> (0.001)
Control variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Net Effects	0.164	0.189	0.182	0.186	0.527	0.494	0.401	0.692
Log likelihood	-2492.320	-2490.352	-2488.717	-2492.07	-2203.342	-2209.129	-2213.087	-2202.434
Likelihood Ratio Chi-Square	<b>155.89***</b>	<b>159.83***</b>	<b>163.10***</b>	<b>156.39***</b>	<b>73.71***</b>	<b>62.13***</b>	<b>54.22***</b>	<b>75.52***</b>
Alpha	<b>1.054***</b>	<b>1.035***</b>	<b>1.018***</b>	<b>1.052***</b>	<b>0.836***</b>	<b>0.895***</b>	<b>0.938***</b>	<b>0.827***</b>
Observations	160	160	160	160	135	135	135	135

\*\*\* \*\*, \*: significance levels at 1%, 5% and 10% respectively. Mean value of Military Expenditure: 1.966. Min and Maximum values of Military Expenditure are respectively 1.000 and 5.000. na: not applicable due to the insignificance of unconditional effects of insecurity variables and/or conditional effect from the interaction between the security policy variable and insecurity variables.

**Table 3: Decomposition by regions**

Dependent variable: Number of Tourist Arrivals								
Panel A: South Asia and “Europe and Central Asia”								
	South Asia				Europe and Central Asia			
Constant	<b>9.266***</b> (0.000)	<b>11.983***</b> (0.000)	<b>9.735***</b> (0.000)	<b>8.982***</b> (0.000)	<b>18.646***</b> (0.000)	<b>18.408***</b> (0.000)	<b>18.523***</b> (0.000)	<b>18.945***</b> (0.000)
Military Expenditure(ME) (-1)	<b>1.494**</b> (0.022)	1.094 (0.149)	<b>1.811**</b> (0.019)	<b>1.825**</b> (0.012)	<b>-0.242***</b> (0.492)	0.111 (0.760)	0.018 (0.959)	-0.184 (0.559)
Terrorism incidents(-1)	<b>1.399***</b> (0.000)	---	---	---	0.485 (0.173)	---	---	---
Terrorism fatalities(-1)	---	<b>1.542***</b> (0.005)	---	---	---	0.439 (0.507)	---	---
Terrorism injuries(-1)	---	---	<b>1.501***</b> (0.000)	---	---	---	0.486 (0.245)	---
Terrorism-related property damages(-1)	---	---	---	<b>1.878***</b> (0.000)	---	---	---	0.565 (0.281)
Terrorism incidents×ME(-1)	<b>-0.371**</b> (0.045)	---	---	---	0.081 (0.468)	---	---	---
Terrorism fatalities×ME(-1)	---	<b>-0.498*</b> (0.052)	---	---	---	0.046 (0.885)	---	---
Terrorism injuries×ME(-1)	---	---	<b>-0.452**</b> (0.024)	---	---	---	0.016 (0.936)	---
Terrorism-related property damages×ME(-1)	---	---	---	<b>-0.567**</b> (0.023)	---	---	---	0.101 (0.696)
Control variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Net Effects	0.669	0.562	0.612	0.763	na	na	na	na
Log likelihood	-413.707	-417.884	-417.002	-416.071	-3047.656	-3077.010	-3067.517	-3054.444
Likelihood Ratio Chi-Square	<b>48.98***</b>	<b>40.63***</b>	<b>42.40***</b>	<b>4.26***</b>	<b>105.48***</b>	<b>46.77***</b>	<b>65.75***</b>	<b>91.90***</b>
Alpha	<b>0.407***</b>	<b>0.527***</b>	<b>0.499***</b>	<b>0.472***</b>	<b>1.044***</b>	<b>1.334***</b>	<b>0.210***</b>	<b>1.106***</b>
Observations	28	28	28	28	180	180	180	180

  

Panel B: “East Asia and the Pacific” and “Latin America and the Caribbean”								
	East Asia and the Pacific				Latin America and the Caribbean			
Constant	<b>18.646***</b> (0.000)	<b>18.408***</b> (0.000)	<b>18.523***</b> (0.000)	<b>18.945***</b> (0.000)	<b>12.494***</b> (0.000)	<b>14.385***</b> (0.000)	<b>14.013***</b> (0.000)	<b>11.932***</b> (0.000)
Military Expenditure(ME) (-1)	-0.242 (0.492)	0.111 (0.760)	0.018 (0.959)	-0.184 (0.559)	<b>-0.666**</b> (0.010)	<b>-0.929***</b> (0.000)	- (0.000)	<b>-0.629**</b> (0.022)
Terrorism incidents(-1)	0.485 (0.173)	---	---	---	<b>1.389***</b> (0.000)	---	---	---
Terrorism fatalities(-1)	---	0.439 (0.507)	---	---	---	<b>0.642**</b> (0.023)	---	---
Terrorism injuries(-1)	---	---	0.486 (0.245)	---	---	---	<b>0.674**</b> (0.011)	---
Terrorism-related property damages(-1)	---	---	---	0.565 (0.281)	---	---	---	<b>2.017***</b> (0.000)
Terrorism incidents×ME(-1)	0.081 (0.68)	---	---	---	<b>-0.443***</b> (0.001)	---	---	---
Terrorism fatalities×ME(-1)	---	0.046 (0.885)	---	---	---	-0.164 (0.244)	---	---
Terrorism injuries×ME(-1)	---	---	0.016 (0.936)	---	---	---	-0.196 (0.115)	---
Terrorism-related property damages×ME(-1)	---	---	---	0.101 (0.696)	---	---	---	<b>-0.681***</b> (0.000)
Control variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Net Effects	na	na	na	na	0.518	na	na	0.678
Log likelihood	-3047.656	-3077.010	-3067.517	-3054.444	-1438.722	-1450.904	-1449.843	-1442.511
Likelihood Ratio Chi-Square	<b>105.48**</b>	<b>46.77***</b>	<b>65.75***</b>	<b>91.90***</b>	<b>55.15***</b>	<b>30.78***</b>	<b>32.90***</b>	<b>47.57***</b>
Alpha	<b>1.044***</b>	<b>1.334***</b>	<b>1.234***</b>	<b>1.106***</b>	<b>0.648***</b>	<b>0.805***</b>	<b>0.790***</b>	<b>0.693***</b>
Observations	180	180	180	180	92	92	92	92

  

Panel C: “Middle East and North Africa” and Sub-Saharan Africa								
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	Middle East & North Africa					Sub-Saharan Africa		
Constant	<b>14.402***</b> (0.000)	<b>14.150***</b> (0.000)	<b>14.426***</b> (0.000)	<b>14.403***</b> (0.000)	<b>13.780***</b> (0.000)	<b>13.650***</b> (0.000)	<b>13.529***</b> (0.000)	<b>13.617***</b> (0.000)
Military Expenditure(ME) (-1)	<b>0.593***</b> (0.001)	<b>0.481***</b> (0.005)	<b>0.512***</b> (0.006)	<b>0.535***</b> (0.001)	0.162 (0.365)	<b>0.268*</b> (0.082)	<b>0.250*</b> (0.096)	<b>0.237*</b> (0.081)
Terrorism incidents(-1)	<b>0.710***</b> (0.004)	---	---	---	0.085 (0.778)	---	---	---
Terrorism fatalities(-1)	---	<b>0.592**</b> (0.013)	---	---	---	0.271 (0.278)	---	---
Terrorism injuries(-1)	---	---	<b>0.450**</b> (0.024)	---	---	---	0.234 (0.287)	---
Terrorism-related property damages(-1)	---	---	---	<b>0.965***</b> (0.001)	---	---	---	0.336 (0.440)
Terrorism incidents×ME(-1)	<b>-0.233***</b> (0.003)	---	---	---	0.067 (0.709)	---	---	---
Terrorism fatalities×ME(-1)	---	<b>-0.243***</b> (0.003)	---	---	---	-0.074 (0.603)	---	---
Terrorism injuries×ME(-1)	---	---	<b>-0.158**</b> (0.024)	---	---	---	-0.064 (0.607)	---
Terrorism-related property damages×ME(-1)	---	---	---	<b>-0.327***</b> (0.000)	---	---	---	-0.039 (0.879)
Control variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Net Effects	0.251	0.114	0.139	0.322	na	na	na	na
Log likelihood	-1114.089	-1114.090	-1115.633	-1112.656	-1941.442	-1942.334	-1942.319	-1941.148
Likelihood Ratio Chi-Square	<b>26.73***</b>	<b>26.73***</b>	<b>23.64***</b>	<b>29.60***</b>	<b>92.45***</b>	<b>90.66***</b>	<b>90.69***</b>	<b>93.04***</b>
Alpha	<b>0.797***</b>	<b>0.797***</b>	<b>0.827***</b>	<b>0.771***</b>	<b>0.667***</b>	<b>0.674***</b>	<b>0.674***</b>	<b>0.664***</b>
Observations	69	69	69	69	135	135	135	135

\*\*\*, \*\*, \*: significance levels at 1%, 5% and 10% respectively. Mean value of Military Expenditure: 1.966. Min and Maximum values of Military Expenditure are respectively 1.000 and 5.000. na: not applicable due to the insignificance of unconditional effects of insecurity variables and/or conditional effect from the interaction between the security policy variable and insecurity variables.

## Appendices

### Appendix 1: Definitions and sources of variables

Variables	Definition of variables and sources
Tourism	The number of tourists arrivals
Military expenditure	Military expenditure as a percentage of GDP The Military Balance, IISS
Terrorism incidents	Logarithm (1+ base) of Total number of terrorist incidents in a given year.
Terrorism fatalities	Logarithm (1+ base) of Total number of fatalities caused by terrorists in a given year
Terrorism injuries	Logarithm (1+ base) of Total number of injuries caused by terrorists in a given year
Terrorism-related property damages	Logarithm (1+ base) of the measure of the total number of properties damaged from terrorist incidents in a given year.
Homicides	Number of homicides per 100,000 people United Nations Office on Drugs and Crime (UNODC) Surveys on Crime Trends and the Operations of Criminal Justice Systems (CTS); EIU estimates
Incarceration	Number of jailed population per 100,000 people World Prison Brief, International Centre for Prison Studies, University of Essex
Violent demonstrations	Likelihood of violent demonstrations Qualitative assessment by EIU analysts
Armed Services Personnel	Number of armed services personnel per 100,000 people The Military Balance, IISS

Uppsala Conflict Data Program (UCDP). The Institute for Economics and Peace (IEP). The Economic Intelligence Unit (EIU). United Nations Peacekeeping Funding (UNPKF). GDP: Gross Domestic Product. The International Institute for Strategic Studies (IISS)

## Appendix 2: Summary Statistics and presentation of countries

Variables	Panel A: Summary Statistics				
	Mean	Standard dev.	Minimum	Maximum	Obsers
Tourist arrivals	6.7533e+6	1.2644e+7	8000.0	8.3767e+7	732
Military expenditure	1.966	0.824	1.000	5.000	978
Terrorism incidents(Ln)	1.328	1.850	0.000	8.122	977
Terrorism fatalities(Ln)	1.153	2.016	0.000	9.203	977
Terrorism injuries(Ln)	1.352	2.195	0.000	9.624	977
Terrorism-related property damages(Ln)	0.923	1.521	0.000	7.155	977
Homicides	2.797	1.154	1.103	5.000	978
Incarceration	2.194	0.889	1.150	5.000	978
Violent demonstrations	2.912	0.969	1.000	5.000	978
Armed Services Personnel	1.648	0.725	1.000	5.000	978

### Panel B: Sampled countries (163)

“Afghanistan; Albania; Algeria; Angola; Argentina; Armenia; Australia; Austria; Azerbaijan; Bahrain; Bangladesh; Belarus; Belgium; Benin; Bhutan; Bolivia; Bosnia and Herzegovina; Botswana; Brazil; Bulgaria; Burkina Faso; Burundi; Cambodia; Cameroon; Canada; Central African Republic; Chad; Chile; China; Colombia; Costa Rica; Cote d' Ivoire; Croatia; Cuba; Cyprus; Czech Republic; Democratic Republic of the Congo; Denmark; Djibouti; Dominican Republic; Ecuador; Egypt; El Salvador; Equatorial Guinea; Eritrea; Estonia; Ethiopia; Finland; France; Gabon; Georgia; Germany; Ghana; Greece; Guatemala; Guinea; Guinea-Bissau; Guyana; Haiti; Honduras; Hungary; Iceland; India; Indonesia; Iran; Iraq; Ireland; Israel; Italy; Jamaica; Japan; Jordan; Kazakhstan; Kenya; Kosovo; Kuwait; Kyrgyz Republic; Laos; Latvia; Lebanon; Lesotho; Liberia; Libya; Lithuania; Macedonia (FYR); Madagascar; Malawi; Malaysia; Mali; Mauritania; Mauritius; Mexico; Moldova; Mongolia; Montenegro; Morocco; Mozambique; Myanmar; Namibia; Nepal; Netherlands; New Zealand; Nicaragua; Niger; Nigeria; North Korea; Norway; Oman; Pakistan; Palestine; Panama; Papua New Guinea; Paraguay; Peru; Philippines; Poland; Portugal; Qatar; Republic of the Congo; Romania; Russia; Rwanda; Saudi Arabia; Senegal; Serbia; Sierra Leone; Singapore; Slovakia; Slovenia; Somalia; South Africa; South Korea; South Sudan; Spain; Sri Lanka; Sudan; Swaziland; Sweden; Switzerland; Syria; Taiwan; Tajikistan; Tanzania; Thailand; The Gambia; Timor-Leste; Togo; Trinidad and Tobago; Tunisia; Turkey; Turkmenistan; Uganda; Ukraine; United Arab Emirates; United Kingdom; United States of America; Uruguay; Uzbekistan; Venezuela; Vietnam; Yemen; Zambia and Zimbabwe”.

Standard dev: standard deviation. Obsers: Observations.

## Appendix 3: Correlation matrix (uniform sample size = 732)

T. Incid.	T. Fat.	T. Inju.	T. Prop.	Homicide	Incarce	Demon	ASP	Mili Exp.	Tourists	
1.000	0.875	0.906	0.963	-0.009	-0.024	0.345	0.131	0.203	0.210	T. Incid.
	1.000	0.927	0.844	0.113	-0.030	0.358	0.065	0.165	0.061	T. Fat.
		1.000	0.878	0.042	0.001	0.352	0.119	0.199	0.119	T. Inju.
			1.000	-0.001	-0.018	0.327	0.139	0.188	0.195	T. Prop.
				1.000	0.182	0.274	-0.254	-0.149	-0.275	Homicide
					1.000	-0.148	0.179	0.076	0.162	Incarce
						1.000	-0.043	0.047	-0.189	Demon
							1.000	0.579	0.034	ASP
								1.000	0.030	Mili Exp.
									1.000	Tourists

Weapons: Access to weapons. Crime: Violent crime. Criminality: Perceptions of criminality. Pol. Inst: Political instability. ASP: Armed Service Personnel. Incarce: Incarcerations. Demon: Violent demonstrations. Mili Exp: Military Expenditure. T. Incid: Total number of incidents in a given year. T. Fat: Total number of fatalities caused by terrorists in a given year. T. Inju: Total number of injuries caused by terrorists in a given year. T. Prop: Total property damage from terrorist incidents in a given year. 5% critical value (two-tailed) = 0.0725 for n = 732.