The effects of terrorism, crime and corruption on tourism

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Abstract:

This article examines the effect of terrorism, crime and corruption on tourist arrivals for 171 countries for the period 1995–2013. Two types of analysis are analysed: an aggregated tourism demand model at country level and a disaggregation of tourism arrivals by origin. The findings from the aggregated one show that terrorism and crime have a negative effect on tourist arrivals but that corruption has no effect. The data on tourist arrivals disaggregated by origin are used to study the effects of instability in the destination and the origin country and to compare the instability measures of the two countries. Here the findings are that terrorism, crime and corruption in the destination country have a negative effect on inbound tourism but that instability in the origin country has no clear effect on tourist departures; and that tourists from stable countries prefer travelling to countries with the same stability but tourists from unstable countries are more tolerant of crime, terrorism and corruption in the destination country.

Keywords: terrorism, crime, corruption, international tourism, gravity model

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1. Introduction

On 26 June 2015, 38 people, mostly British tourists, were killed by a gunman at a tourist resort in Port El Kantaoui, just outside the city of Sousse in Tunisia. Not to mention the human tragedy, the immediate economic consequences were devastating for an economy that gets almost 15% of its GDP from tourism: several tour operators and air carriers adjusted or even cancelled tourist bookings in the months that followed the attack. Many potential visitors shifted their holiday trips to safer destinations such as Spain or Italy. The Sousse attack was not an isolated event. Four other attacks took place on the same day: in France (one death), Kuwait (27 deaths), Syria (20 deaths) and Somalia (70 deaths). Terror attacks are not limited to a particular month or country. In 2015, they occurred throughout the year and in countries where tourism constitutes a significant share of exports, such as Israel (7%), Ukraine (7%), France (8%), the Philippines (8%), the US (9%), Thailand (16%), Egypt (16%), Turkey (17%) and Kenya (18%).

However, terrorism is not the only instability factor affecting tourism destination choices. Crime and corruption imposes a burden on society. While in most parts of the world, crime and corruption rates are lower today than those recorded some decades ago, many countries still experiences high levels of crime and corruption every year that are perceived as risk factors for potential tourists. In this sense, it is found that many of countries characterized by high levels of crime and corruption are not able to develop the tourist sector despite their potential cultural and environmental attractiveness (Assaf & Josiassen, 2012).

This paper investigates the extent to which instability, measured in terms of terrorism, crime and corruption, reduces tourist arrivals. Our analysis rests on two different strategies. We first apply a two-dimensional analysis to the total tourist arrivals to 171 destination countries for the period 1995–2013. We define a tourism demand model to explore the effects of terrorism, crime and corruption on total arrivals. One of innovative feature of this research is that we differentiate tourist arrivals by the purpose of the trip, so we can distinguish differences between the effects of instability on personal and business tourism. We also split the sample according to the destination countries' attractiveness or unattractiveness to tourists and according to the countries' level of development. We can thus compare the effects of instability on tourism demand internationally. Second, we apply a three-dimensional analysis to total tourist arrivals but disaggregated by destination and origin country. To that end, a gravity model for bilateral tourism flows between the origin and destination country is defined. Although this database does not allow to consider the segmentation by purpose of the trip, the analysis allows us to investigate the effects of instability in not only the destination but also the origin country and to identify similarities between the instability indices of the two countries.

This study is the first attempt to explore the effects of terrorism, crime and corruption using tourist arrivals by country of origin. Then, we make four contributions to the earlier literature: (i) we investigate three

measures of instability, namely terrorism, crime and corruption, to isolate their individual effects, using a dataset of a large number of countries and covering a recent period; (ii) we identify differences in the effects of instability on tourism according to purpose of trip, attractiveness of countries to tourists and countries' level of development; (iii) we use a novel bilateral dataset of tourism flows that allows us to analysis the effects of crime, terrorism and corruption in not only the destination but also the origin country and to identify the effect of similarities/differences on the instability indices on bilateral tourism demand; (iv) we measure the size of the negative shock caused by violent events or corruption, which allows us to estimate the cost of instability to the tourism industry.

Because of the growing nature of tourism flows and its relevance for some developing countries results of this work can be useful for those governments that would promote different policies against terrorism, crime and corruption. The rest of the paper is organised as follows. Section 2 summarises the main literature on the effects of political and institutional instability on tourism, Section 3 presents the data and methods used in the analysis, Section 4 discusses the results of the analysis, and Section 5 draws conclusions.

2. Political and institutional instability and tourism

The effects of terrorism, crime and corruption on economy have been investigated extensively in the academic literature. Terrorism and crime have been acknowledged as negative factors entailing both direct costs (value of damaged structures, lives lost or damaged, injuries sustained, cleanup,...) and indirect costs (higher insurance premiums, higher security costs and lost commerce) (Sandler, 2014; Czabanski, 2008). In the case of corruption, although is generally accepted that corruption negatively affects economic growth, there is some controversy by the fact that some countries achieve rapid growth under widespread corruption (Li & Wu, 2010).

For the tourism industry, terrorism, crime and corruption are expected to act as negative attractors of a destination. Terrorist attacks are a form of violent event that we would expect to have a large negative effect on the tourism sector. Tourists want to travel to safe places – clearly, if they see a risk of injury or death, or even just becoming involved in a stressful situation, they will avoid that destination. There have been cases where tourists have been used as a political tool to gain more media coverage. When violence becomes widespread and prolonged, governments in tourists' origin countries will advise against travelling to the destination. Tourist agencies will cancel tours because of insufficient bookings and fear of liability suits and promote other destinations instead (Neumayer, 2014). A further problem is that terrorist attacks can damage infrastructure relevant to the tourism industry (Llorca-Vivero, 2008) and terrorist attacks and political riots may damage or destroy national treasures (Yap & Saha, 2013). In the case of crime, two

additional plausible explanations for the negative correlation between insecurity and tourist arrivals can be that a lack of security increases the perceived satisfaction of an experience and the costs of protection (for the domestic service provider) also raise the costs tourists have to incur.

Other forms of insecurity, such as corruption, can also affect tourist behaviour. If a country practices bribery and fraudulent business practice, this can damage its social and cultural image and impede its tourism competitiveness (Das & Dirienzo, 2010). Corruption and political instability can increase the cost of doing business and put up barriers to investment in the tourism sector (Tonsun & Timothy, 2001). Corruption affects the image people have of a destination country and causes uncertainty about safety and the cost of the trip. In general, according to Propawe (2015), people prefer travelling to countries with minimal corruption, particularly if they come from countries where corruption is not common. Prevalent corruption is likely to increase travel costs, having much the same effect as a tax. Tourists may incur additional costs in the form of bribes, for example to obtain a visa, to persuade a police officer to let them through a road block, or even simply to get decent treatment in restaurants.

In the empirical literature a large and expanding number of works have discussed the factors influencing tourists' choice of destination including economic (such as income or price), geographic (such as distance, temperatures or beaches), historical (such as colonial background) or cultural (such as language, religion or ethnicity) (Papatheodorou, 2001; Assaf & Josiassen, 2012). But many of these factors are time-invariant, and those that do vary do so slowly; few of these factors can explain why tourism grows faster in some countries than in others. In this way, the question of how far political and institutional instability in a country reduces tourism demand has scarcely been explored in the literature and it is mainly concerned with individual countries or specific violent events. [1]

There are exceptions, though. Neumayer (2004), one of the first to measure the effects of insecurity on tourism finds a negative association between human rights violations, conflict and other politically motivated violent events and tourist arrivals. Political violence, he notes, is bad news for a country's tourism, even if no tourist is ever physically harmed or killed. 'The good message, on the other hand,' he says, 'is that if the violence stops and the country manages to reverse its negative image in the international media, then tourism can bounce back'. In a similar way, Llorca-Vivero (2008), using bilateral tourism data to estimate a cross-sectional gravity model, finds also that terrorism seriously damages the tourism industry, with particularly severe effects in developing countries.

[1] Some examples are Fleischer & Buccola (2002), Smyth et al. (2009) and Feridun (2011) for terrorism; McPheters & Stronge (1974), Levantis & Gani (2000), Alleyne & Boxill (2003) and Lorde & Jackman (2012) for crime; and Leung et al. (1996), Duffy (2000) and Henderson (2003) for corruption.

Saha & Yap (2014) find that the effect of political instability on tourism is more severe than the effects of a one-off terrorist attack. They also find, surprisingly, a non-significant or even marginally positive effect of terrorist attacks on tourism in countries with a low level of political instability, but significant inhibition of tourism in countries with high levels of political instability. Similarly, Yap and Saha (2013) find that terrorism has a negative effect on tourism demand, but that the effect is smaller in countries that have historical and natural attractions questioning previous results that had considered terrorism as an isolated factor. Altindag (2014) analyses the effect of crime on tourism by using panel data that includes tourism flows to European countries. He finds that violent crime is negatively associated with tourist arrivals and tourism revenue, but that the effect is smaller in southern Europe, which is evidence of a trade-off between environmental factors (such as good weather and sandy beaches) and security. He says that when people choose a holiday destination, they take into account the risk of becoming a victim. Other things being equal, people are more likely to visit safer places, so countries with higher crime rates will receive fewer visitors from abroad. Crime may create an externality in the form of a reduction in international tourism activity.

In a cross-country study of the link between corruption and tourism, Das and DiRienzo (2010) find a negative association between corruption and tourist arrivals, and they find the association is stronger in developing than developed countries. Using a fixed-effects and Dynamic GMM specifications and a panel dataset of over 100 countries over 16 years, Propawe (2015) finds that a 1-point increase in the Corruption Perception Index (CPI), i.e. a reduction in corruption results in a 2 to 7% increase in tourism, ceteris paribus. Saha and Yap (2015) find a negative but non-linear association between corruption and tourism. They find that while corruption generally has a negative association with tourism, it has a marginally positive association if corruption is minimal. Finally, Balli et al. (2015) also define a gravity model for bilateral tourism and find that the quality of institutions, measured in terms of perceived corruption, is important to tourists when selecting destinations.

Then, to the best of our knowledge, measures of insecurity such as crime, corruption and terrorism have not been analysed jointly to explore their effect on tourism flows. However the joint consideration of these three dimensions of instability should overcome the potential bias in the quantification of each one of the factors considered separately. Additionally we investigate differences in the effects of instability on tourism according to purpose of trip, attractiveness of countries to tourists and countries' level of development using a novel bilateral dataset of tourism flows that allows analysing the effects of political instability not only the destination but also the origin country and, consequently, identifying the effect of similar instability indices in these countries on tourism demand.

3. Data and methods

We used two datasets to analyse the effects of political and institutional instability on tourism flows: total tourist arrivals to a particular destination (two-dimensional analysis, i.e. destination and year) and tourist arrivals disaggregated by country of origin (three-dimensional analysis, i.e. origin, destination and year).

We also explored the possibility that international tourists' response to political and institutional instability differs according to the attractiveness of the country (Yap & Saha, 2013; Altindag, 2014). We expect that instability will has a smaller effect on tourism in countries that have some special attraction for tourists, such as a large number of UNESCO World Heritage Sites. When such a country suffers from terrorism, crime or corruption, tourists may find it difficult to find a substitute. We therefore split the sample into two groups: *Countries attractive to tourists* (countries with more world heritage sites than the median – there are two of these in our sample) and *Countries unattractive to tourists* (countries with fewer than two world heritage sites). In this second group we include countries with no world heritage sites. To explore whether the effects of political and institutional instability differ for developed and developing countries, we split the countries into two groups: *Developed countries* (those with a high or very high human development index (HDI) as classified by the UN) and *Developing countries* (those with a medium or low HDI). See Figures 1 and 2.

[INSERT FIGURES 1 AND 2 HERE]

3.1 Two-dimensional analysis

We first investigate the effects of political and institutional instability on tourism flows. We use a panel dataset of 171 destination countries for the period 1995–2013. We estimate a standard tourism demand model using a conventional linear functional form as follows:

$$LnTou_{it} = \beta_0 + \beta' Controls_{it} + \gamma' Instability_{it} + \lambda_t + u_{it} \quad (1)$$

The model investigates a straightforward association between tourism demand and political and institutional instability. The model is estimated by a panel fixed effect technique, and year fixed effects (λ_t) are included to capture year effects common to all countries.

The dependent variable for tourism demand is $nTou_{it}$, which measures the logarithm of tourist arrivals in country i at year t. This variable includes two types of tourism, classified according the main purpose of the trip: $LnPersonal_{it}$, which is the logarithm of tourist arrivals for personal reasons (holidays, leisure and recreation and other reasons such as visiting friends and relatives) and $LnBusiness_{it}$, which is the logarithm of tourist arrivals for business and professional reasons. This classification by type of tourism is a novelty of our research. The data are from the Compendium of Tourism Statistics compiled by the United Nations World Tourism Organization (UNWTO, 2015) and comprise tourist arrivals to 171 countries for the period 1995–2013 with data missing for some years for some countries. As the classification by purpose of trip is not available for all countries in the dataset, we present total tourist arrivals for 171 countries but tourist arrivals for personal or business reasons for only 149 countries.

The model includes two sets of variables. The first is a set of control variables ($Controls_{it}$). The logarithm of real GDP per capita ($LnGDPpc_{it}$) is used as a proxy for income and the logarithm of population ($LnPop_{it}$) is used to control for the size of the country (Lim, 2006; Yap & Saha, 2013). The ratio of the PPP conversion factor (GDP) to the market exchange ($LnPrice_{it}$) is used as a proxy for differences in price levels. The ratio is obtained by dividing the PPP conversion factor by the market exchange rate (Eilat & Eivav, 2004). This variable is defined as the 'number of units of a country's currency required to buy the same amount of goods and services in the domestic market as a US dollar would buy in the US'. These three variables are obtained from the World Development Indicators (WDI, 2015) compiled by the World Bank.

Finally, as a proxy for the quality of the institutions in the destination country, the variable voice and accountability (VA_{it}) is used. This variable captures 'perceptions of the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media'. In our model, voice and accountability can be interpreted as the effect of human freedoms and rights, and the effect of a democratic government on international tourism. These variables were defined by Kaufman et al. (2007) and published in the World Governance Indicators (WGI) by the World Bank.[2] This variable ranges from -2.5 (weak) to 2.5 (strong). Since our model is estimated by panel fixed effect technique, all country specific time-invariant characteristics, such as geographical features, are absorbed by the fixed effects.

The second is a set of political and institutional instability variables ($Instability_{it}$): terrorism ($Terrorism_{it}$), crime ($Crime_{it}$) and corruption ($Corruption_{it}$). In the tourism literature, empirical researchers such as Neumayer (2004), Llorca-Vivero (2008) and Feridun (2011) use the number of terrorist incidents as a proxy for the effects of terrorism on tourism demand. To define $Terrorism_{it}$, we use the number of successful

[2] The WGI presents alternative proxies for the quality of the institutions such as government effectiveness, control of corruption or political stability and absence of violence. However, these variables are highly correlated with the variables of interest in our research. And as we are interested in including a proxy for democratic governments, we use voice and accountability to control for the quality of the institutions.

terrorist attacks per 10,000 inhabitants. This variable is a proxy of terrorist attacks controlling for the population size of the country. Data are obtained from the Global Terrorism Database (GTD, 2015), which defines terrorism as 'the threatened or actual use of illegal force and violence by a non-state actor to attain a political, economic, religious, or social goal through fear, coercion, or intimidation'.

To define $Crime_{it}$ we only consider one type of crime, homicide. We do this because violent crime is expected to have a larger effect on tourists' decisions than other types of crime, such as theft, and because homicide is a convenient proxy for crime rates because of data availability. Other types of violent crime such as assault, rape and kidnapping, may of course also affect tourists' decisions, but the data are less readily available. Homicide data, however, are highly correlated with other violent crime proxies. We use as our variable the number of homicides per 10,000 inhabitants. The data are obtained from the WDI.[3]

To define $Corruption_{it}$ we use the Corruption Perceptions Index (CPI) provided by Transparency International (2015). This index measures perceived (not actual) levels of public sector corruption, ranging from 0 (more corrupt) to 10 (less corrupt). It is a composite index based on surveys and professional assessments and reflects the views of observers from around the world, including experts living and working in the surveyed countries.[4] This is an appropriate variable for our model since the decision on where to spend one's holiday is usually based on perceived rather than actual corruption.

In addition, following the suggestions of Altindag (2014) and Propawe (2015), we explore the effect of lagged instability variables. We do this for two reasons. First, it may take some time for potential tourists to update their expectations after a terrorist attack or an increase in the risk of becoming a victim of crime or an increase in corruption. This lagged effect of instability is relevant for terrorist attacks because of the assumptions that tourists book their holiday in advance and that it takes time for the tourism sector to recover after an attack. Second, using the current instability rate could generate an endogeneity problem. A country's crime rate can be affected by tourism activity: crime committed by residents of the destination country may increase because tourists are perceived to be wealthy, and similarly, tourists' perceptions of corruption may increase when they visit the country. We thus estimate equation (2), where the instability variables are lagged one period:

$$LnTou_{it} = \beta_0 + \beta' Controls_{it} + \gamma' Instability_{it-1} + \lambda_t + u_{it} \quad (2)$$

[3] The WDI defines intentional homicide as homicide purposefully inflicted as a result of domestic disputes, interpersonal violence, violent conflicts over land resources, intergang violence over turf or control, and predatory violence and killing by armed groups (homicide in armed conflicts such as war is not included).

[4] In 2012 the CPI scale was changed from 0–10 to 0–100. We re-scale the data for years 2012 and 2013 to make them comparable to previous years.

Table 1 presents summary statistics of the variables considered in the two-dimensional analysis.

[INSERT TABLE 1 HERE]

3.2 Three-dimensional analysis

The second part of the analysis explores the effects of terrorism, crime and corruption on international tourism flows by considering differences between tourists' origin and destination countries. For this three-dimensional analysis (origin, destination and year), we define a gravity model for international tourism flows. Gravity models are commonly used in the trade literature (e.g. Kimura & Lee, 2006; Baier & Bergstrand, 2007; Head et al., 2010; Rose & Spiegel, 2011), and increasingly in tourism research (Eilat & Einav, 2004; Khadaroo & Seetanah, 2008; Neumayer, 2010; De Vita, 2014). These models consider that international flows between two countries are directly proportional to their economic size and inversely proportional to the distance between both countries. Morley et al. (2014) have shown that gravity models for tourism can be derived from consumer choice theory to explain bilateral tourism. The estimated gravity model for tourism demand is defined in equation (3)

$$LnTou_{ijt} = \beta_0 + \beta_1' Controls_{it} + \beta_2' Controls_{jt} + \beta_3' Controls_{ij} + \beta_4' Controls_{ijt} + \gamma_1' Instability_{it} + \gamma_2' Instability_{jt} + \gamma_3' SimilInstability + \lambda_i + \lambda_j + \lambda_t + \epsilon_{it} \quad (3)$$

where, sub-indices *i, j* and *t* refer to destination, origin and year, respectively. The model is estimated using Ordinary Least Squares (OLS) by including destination (λ_i), origin (λ_j) and year (λ_t) fixed effects. Since the variables of interest are time-varying and country specific ($Instability_{it}$ and $Instability_{jt}$), time-varying country fixed effects cannot be included in the regression. The dependent variable is tourist arrivals from 171 origin countries to 176 destination countries for the period 1995–2013. One limitation of this data for the purposes of our research is that it does not disaggregate tourists by purpose of trip.

The gravity model uses four sets of control variables. The first set consists of time-varying country-specific characteristics of the destination ($Controls_{it}$) and origin ($Controls_{jt}$) countries. In this set the logarithm of GDP per capita in the origin and the destination country ($LnGDPpc_{it}$ and $LnGDPpc_{jt}$) and the logarithm and

the population ($LnPop_{it}$ and $LnPop_{jt}$) are included as measures of the economic size of the countries. And as in the two-dimension analysis, the variables voice and accountability in the destination and the origin country (VA_{it} and VA_{jt}) are included as controls for the quality of the institutions.

The second set consists of time-invariant country-pair characteristics ($Controls_{ij}$). The gravity model predicts that tourism flows between two countries will depend on the cost of travelling between them. Distance is commonly used as a proxy for transport cost, so we include in the model the logarithm of the distance between the destination and the origin country ($LnDist_{ij}$). We also include dummy variables to control for: sharing a common land border ($Border_{ij}$), having ever had a colonial link ($Colony_{ij}$), being currently in a colonial relationship ($Curcol_{ij}$) and having been the same country ($Smctry_{ij}$).

The third set consists of time-variant country-pair variables ($Controls_{ijt}$). To control for the intensity of the economic relationship between a pair of countries, it includes a dummy variable for being a signatory to the same regional trade agreement (RTA_{ijt}). These data are obtained from the Regional Trade Agreements Information System compiled by the World Trade Organization. We also include a religious similarity index variable ($Religion_{ijt}$) as defined by Fourie et al. (2015). This variable is generated as $Religion_{ijt} = \sum_{r=1}^{5} r_i r_j$ where r_i and r_j are the percentages of the population affiliated to each of the five major religions in the destination and origin country, respectively: Christian, Muslim, Hindu, Buddhist and Jew. The religious similarity index represents the probability that two randomly chosen individuals in each country will share the same religion. According to this definition, a country pair can be considered religiously proximate if they have either a common religious majority or a common religious minority. The percentages of affiliation to each religion are obtained from the World Religion Database (WRD, 2015).

The fourth set consists of political and institutional instability variables in the destination and in the origin country, respectively $Instability_{it}$ and $Instability_{jt}$. These variables are defined as in Section 3.1. In the gravity model (3), we include $Terrorism_{it}$ and $Terrorism_{jt}$, which measure the number of terrorist attacks per 10,000 inhabitants in the destination and the origin country, respectively; $Crime_{it}$ and $Crime_{jt}$, which measure the number of homicides per 10,000 inhabitants in the destination and the origin country, respectively; and $Corruption_{it}$ and $Corruption_{jt}$, which measure the corruption perception index in the destination and the origin country, respectively.

We also capture similarities in the instability variables between the destination and origin country. One can argue that tourists from politically and institutionally stable countries prefer travelling to other stable countries, while tourists from countries with high levels of terrorism, crime or corruption are more tolerant of similar problems in a destination country. Following De Groot et al. (2003), to proxy for similarities in the terrorism, crime and corruption variables between the destination and origin country, we construct dummy

variables ($SimilInstab_{ijt}$) that take the value one/zero if the absolute value of the differences in instability defined as $DiffInstab_{ijt} = |Instability_{it} - Instability_{jt}|$ is below/above the median of the variable $DiffInstab_{ijt}$ in the sample. Three instability variables are used as proxies for terrorism($SimilTerror_{ijt}$), crime ($SimilCrime_{ijt}$) and corruption($SimilCorrup_{ijt}$). The estimated effect of similar instability, measured in this way as a discrete effect, can be interpreted clearly and concisely. Specifically, a positive effect of these bilateral tourism variables would imply that tourists prefer to travel to countries similar to their home country in terms of terrorism, crime and corruption.

We also include an alternative proxy for similarities in the instability variable, which is measured as differences between instability in the destination and origin countries $DiffInstab_{ijt} = Instability_{it} - Instability_{jt}$. Since $DiffInstability_{ijt}$ is a linear combination of instability in the destination and origin country, equation (4) is estimated as follows

$$LnTou_{ijt} = \beta_0 + \beta_1' Controls_{it} + \beta_2' Controls_{jt} + \beta_3' Controls_{ij} + \beta_4' Controls_{ijt} + \varphi' DiffInstability + \lambda_i + \lambda_j + \lambda_t + \epsilon_{it} \quad (4)$$

Again, differences in the instability variables are defined for terrorism($DiffTerror_{ijt}$), crime ($DiffCrime_{ijt}$) and corruption($DiffCorrup_{ijt}$). It is expected that, the two variable for terrorism ($DiffTerror_{ijt}$) and crime ($DiffCrime_{ijt}$) take negative values when the destination country has lower rates of terrorism attacks or homicides than the origin country, respectively; similarly, they take positive values when terrorism and crime rates are higher in the destination country, and they take a value of zero when these rates are the same in the destination and origin country. We therefore expect these variables to have a negative effect on inbound tourism. In contrast, since a higher CPI implies lower perceived corruption levels, the variable $DiffCorrup_{ijt}$ takes positive values when the destination country is perceived to be less corrupt than the origin country, negative values when the destination country is perceived be more corrupt than the origin country, and the value zero when corruption is perceived to be the same in both countries. We thus hypothesise that people from less corrupt countries prefer travelling to countries with a similar level of corruption, the expected sign of $DiffCorrup_{ijt}$ is positive.

Table 2 presents summary statistics of the variables considered in the three-dimension analysis.

[INSERT TABLE 2 HERE]

4. Results

4.1 The effect of instability on tourist arrivals (two-dimensional analysis)

Table 3 presents the results of estimating equations (1) and (2) for the total tourist arrivals $LnTou_{it}$, which includes arrivals for both personal and business purposes. Each column shows the estimate of the instability variable and its lag. Due to data availability, all the instability variables cannot be included at the same time without considerably reducing the sample size. The variable $Terrorism_{it}$ has the most complete data, so it is included in all regressions, but $Crime_{it}$ and $Corruption_{it}$ are available for only 166 and 121 countries, respectively, with many missing values for some years.

[INSERT TABLE 3 HERE]

In general, for all the estimates, the coefficient of $LnGDPpc_{it}$ is significantly positive, implying that richer countries receive more tourists. Since the dependent variable is also expressed as a logarithm, the coefficient can be interpreted as an elasticity, implying that a 1% increase in real GDP per capita increases tourist arrivals by 0.84 to 1.35%. Similarly, the coefficient of $LnPop_{it}$ is significantly positive, implying that a 1% increase in the destination country population attracts from 0.8 to 1.07% more tourists to the country. The coefficient of VA_{it} , the variable that controls for the quality of the institutions, ranges from 0.13 to 0.36, implying that the presence of a democratic government significantly increases inbound tourism. We can take this to mean that a country that respects the essential human rights and freedoms attracts more tourists. Finally, the variable used as a proxy for relative prices is not significant ($LnPrice_{it}$), implying that price competitiveness is not relevant. However, this result is to be expected since the sample includes very similar countries.

First, columns (1a) and (1b) in Table 3 show the results of estimating the tourism demand model with terrorism. The coefficient of the variable $Terrorism_{it}$ is significantly negative, implying that a 1% increase in the ratio of terrorist attacks per 10,000 inhabitants reduces tourist arrivals by 2.3%.[5] This is also true for the lagged variable $Terrorism_{it-1}$, implying that a 1% increase in that variable reduces inbound tourism by 1.74%. These results imply that terrorism negatively affects the tourism sector and this effect can still be seen one year afterwards, although it is smaller than the immediate effect.[6]

[5] Please note that $Terrorism_{it}$ is already defined as an index (% terrorist attacks per 10,000 inhabitants), so the interpretation of the coefficient should be in terms of a 1% (unitary) increase in the value of the index

[6] We also explore alternative proxies for terrorism such as the number of terrorist attacks with victims (fatalities) per 10,000 inhabitants ($Terrorism2_{it}$) and the number of victims in terrorist attacks ($Terrorism3_{it}$). All these data are also obtained from Global Terrorism Database. The results of the estimates of equation (1) and (2) with the alternative proxies for terrorism are presented in Table A.1 in the appendix. As can be observed, the three proxies have a significantly negative effect, with the immediate effect being larger than the lagged effect.

Second, we look at the effect of crime rates on inbound tourism. These results are presented in columns (2a) and (2b). The coefficients of $Crime_{it}$ and $Crime_{it-1}$ are significant and present the expected negative sign. Indeed, the estimate effects of the crime rate and the crime rate lagged one period are very similar. In particular, a 1% increase in the number of homicides per 10,000 inhabitants reduces tourism flows by 0.06%.

Third, we look at the effect of corruption on inbound tourism. The estimates are shown in columns (3a) and (3b). Here a higher index is associated with a less corrupt country, so we expect $Corruption_{it}$ and $Corruption_{it-1}$ to have a positive effect of on tourism. However, although the signs of the coefficients are as expected, neither of these variables is significant, implying that corruption does not have a significant effect on international tourist arrivals. Our result differs from those obtained by Propawe (2015) or Saha & Yap (2015), who use the same proxy for corruption but obtain a significantly negative effect of corruption on tourism; that is, they find that countries with lower corruption levels are more attractive to international tourists. The only plausible explanation is that their samples and specifications are different from ours.

So far, we have explored the effect of instability on inbound tourism. Our results suggest that countries with less risk of terrorism or crime attract more tourism but that corruption has no significant effect on tourism. The results using lagged variables suggest that the effect of instability lasts at least one year although the effect is weaker a year later. Tourism to some destinations seems to be resilient to terrorist attacks, crime and corruption and recovers more quickly than tourism to other similarly affected countries.

Having explored the effects of terrorism, crime and corruption on total tourist arrivals $LnTou_{it}$, we then looked at their effect on tourist arrivals differentiated according to purpose of trip. We used UNWTO data for inbound tourism, disaggregated into personal $LnPersonal_{it}$ and business $LnBusiness_{it}$ purposes. On average, leisure tourism represents around 70% of total tourism. This allowed us to investigate whether the deterrent effect of instability varies according to the purpose of the trip.

We looked next at the possibility that incoming tourists' reaction to terrorism, crime and corruption differs according to the attractiveness of a country. Our measure of attraction is the number of world heritage sites a country has. We expect that instability will have less effect on tourism in more attractive countries. And finally we looked at whether a country's level of development affected the extent to which instability affects inbound tourism. Table 4 disaggregates tourists according to purpose of trip and presents the coefficients of instability variables according to countries' levels of attractiveness to tourists and state of development.[7]

[INSERT TABLE 4 HERE]

[7] For simplicity, only the coefficients of the variables of interest are presented. Full results are available upon request.

We first present the results by purpose of the trip for the whole sample. As expected, the effects of terrorism and crime on tourist arrivals are larger for personal (or 'leisure') travel than for business travel, and the same applies in the case of the lagged variables. Indeed, a 1% increase in the ratio of terrorist attacks per 10,000 inhabitants decreases leisure tourist arrivals by 3.45%, but business tourist arrivals by only 2.66%. Similarly, a 1% increase in the crime rate reduces leisure tourist arrivals by 0.07% but has no significant effect on business tourist arrivals. However, when the main purpose of the trip is business between countries with a strong economic relationship, the destination cannot be easily substituted. This explains why terrorism and crime are not significant at the 5% level for business tourism. In the case of corruption, we found it only affects tourism for business purposes. This may be because corruption affects the economic relationship between countries. We found that corruption has no significant effect on leisure tourism, and so on total tourism.

Second, we present the results of our analysis of the effect of terrorism, crime and corruption on tourism according to country attractiveness. We split the sample into *Countries attractive to tourists* (those with more than 2 world heritage sites) and *Countries unattractive to tourists* (those with 0, 1 or 2 world heritage sites). Table 4 shows that for leisure tourism, the effect of terrorism is slightly higher in countries attractive to tourists than in countries not attractive to tourists. Terrorism also has no significant effect on business tourism in countries attractive to tourists but it has a negative effect on business tourism in countries not attractive to tourists. Crime has no effect on tourism for either leisure or business for *Countries attractive to tourists* but a negative effect for both purposes for *Countries unattractive to tourists*. This result is similar to the finding by Altindag (2014) that if tourists are attracted by a country's tourism prospects they may not be significantly deterred by the crime rate. In other words, the attractiveness of a country may partly compensate for the possibility of becoming a victim. Finally, perceived corruption has a significant effect only on tourism for business purpose in countries attractive to tourists. These results suggest that attractiveness to tourists moderates the effect of instability on inbound tourism. Tourism is less affected by terrorism, crime or corruption in countries with a large number of heritage sites that attract tourists every year, since it is not easy to find substitutes for such destinations.

Third, we present the results of our investigation into whether the effect of instability has different effects on tourist arrivals in developed and developing countries. Table 4 shows that terrorism has a larger effect on travel to developing than developed countries, presumably because violent events are more common in the former. In contrast, crime has a significantly negative effect on total tourism and on leisure tourism to developed countries but no significant effect on tourism to developing countries, possibly because tourists accept that they have to tolerate a certain level of crime in the latter. Finally, we find that an increase in the

perceived level of corruption reduces only business tourist arrivals in developing countries, but, strangely, increases total tourist arrivals in less developed countries.[8]

4.2 The effect of instability on tourist arrivals by country of origin (three-dimensional analysis)

Table 5 presents the results of estimating equations (3) and (4) that use the number of tourist arrivals to destination country i from origin country j at year t ($LnTou_{ijt}$) as the dependent variable. As mentioned earlier, the UNWTO data on total tourist arrivals by origin country does not include purpose of trip. The gravity model is estimated by OLS with destination, origin and year fixed effects. The results of estimate equation (3) are presented in columns (1a), (2a) and (3a) in Table 5 and estimates of equation (4) are presented in columns (1b), (2b) and (3b).

[INSERT TABLE 5 HERE]

In general, our gravity model works well, explaining around 86% bilateral tourism and the sign and significance of the explanatory variables are as expected. As the model predicts, the economic size of the origin country, measured in terms of the logarithm of the real GDP per capita ($LnGDPpc_{it}$ and $LnGDPpc_{jt}$) and population ($LnPop_{it}$ and $LnPop_{jt}$) in the origin and destination country, matters for explaining bilateral tourism flows in all regressions used. The effect of the economic size of the destination country is larger than that of the origin one, suggesting that more populated and richer countries attract a larger number of international tourists. The quality of the institutions in the destination country, measured in terms of the level of democracy, significantly affects international tourism while their quality in the origin country has no significant effect. The geographical variable $LnDist_{ij}$ has the expected negative sign and $Border_{ij}$ has the expected positive effect on tourism movements. So, if we consider distance as a proxy for travel costs, our results suggest that tourists prefer to travel to closer destinations. Cultural variables, measured by $Lang_{ij}$, $Colony_{ij}$, $SmCtry_{ij}$ and $Religion_{ijt}$, have a significantly positive effect, suggesting that speaking the same language, having the same colonial background or practising the same religion promote tourism movements between countries. Finally, being a signatory to a common regional trade agreement (RTA_{ijt}) has a positive effect on international tourism. The implication is that the intensity of the economic relationship between countries encourages bilateral tourism.

[8] Note that the classification of tourism by purpose of the trip is not available for all countries, so $LnTou_{it}$ includes a larger number of countries (171) than $LnPersonal_{it}$ and $LnBusiness_{it}$ (149)

Looking at the variables of interest, as obtained in the previous section, we see that terrorism has a negative effect on the destination country. The coefficient of the variable $LnTerrorism_{it}$ suggests that 1% increase in the number of terrorist attacks per 10,000 inhabitants in the destination country reduces tourist arrivals by 0.51%. Interestingly, the variable $LnTerrorism_{jt}$ has a significantly positive coefficient, implying that a 1% increase in the number of terrorist attacks per 10,000 inhabitants in the origin country increases international tourism. The implication is that countries that have suffered terrorist attacks receive less tourism but their inhabitants travel more. The coefficient of $SimilTerror_{ijt}$ is significantly positive, implying that if the destination and origin countries have similar levels of terrorism this has a positive effect on international tourism. This result is confirmed by the estimates presented in column (1b) since the effect of $DiffTerror_{ijt}$ is significantly negative, implying that a 1% increase in the difference in the terrorism level between the destination and the origin country reduces bilateral tourism by a 0.548%. In other words, as terrorism increases in the destination country compared to the origin one, the number of tourist arrivals decreases.

The results show that crime is significant for the destination country but not for the origin one. The coefficient of $LnCrime_{it}$ implies that a 1% increase in homicides per 10,000 inhabitants reduces inbound tourism by 0.0191%. The coefficient of $SimilCrime_{ijt}$, the variable for similarities in the crime rate between the destination and the origin country, has a significantly positive effect on tourist arrivals and $DiffCrime_{ijt}$ has the expected significantly negative effect. Thus, similarity in the two countries' crime rates positively affects bilateral tourism. Finally, $LnCorruption_{it}$ has a significantly positive effect on tourism while $LnCorruption_{jt}$ is not relevant. Like crime, perceived corruption has a significantly negative effect on tourism. That is, a higher score on the CPI (indicating a less corrupt country) implies a higher number of tourist arrivals. The significance of the variables $SimilCorrup_{ijt}$ and $DiffCorrup_{ijt}$ suggests that a similar level of corruption in the destination and origin country promotes tourism flows.

To sum up, instability variables only have a clear effect on the destination country, and only terrorism in the origin country has a significant, but positive, effect on tourism flows. Our results therefore show that terrorism, crime and corruption and have a negative effect on the tourism sector of the destination country but they do not affect tourist departures. One of the contributions of our research is that we also explore the effect of differences in instability levels between the destination and the origin countries. The results presented in Table 5 suggest that tourists from stable countries prefer to travel to countries with the same conditions, while tourists from unstable countries are more tolerant of terrorism, crime and corruption in the destination country.

5. Conclusion

This study investigated the performance of the tourism industry in terms of tourist arrivals in the presence of terrorism, crime and corruption for 171 countries for the period 1995–2013. To do this we used two types of analysis: two-dimensional and three-dimensional. The two-dimensional analysis used total tourist arrivals per destination. This analysis suggested that terrorism and crime have a negative effect on tourist arrivals but corruption has no significant effect. We also considered whether the effect of instability on tourist arrivals might differ according to the purpose of the trip. Our results suggested that the effects of terrorism and crime are larger for tourism for personal reasons than for business trips, but corruption only affects business tourism. This is the expected result since tourist destinations are easier to substitute when the purpose of the trip is for leisure or other personal reasons than for business. After a terrorist attack or an increase in crime, tourists might choose a safer destination with characteristics similar to their first choice or they might just stop travelling if the purpose of the trip is for personal reasons. However, when the main purpose of the trip is business between countries with a strong economic relationship, the destination cannot be easily substituted if.

We also explored the effects of terrorism, crime and corruption on tourism according to the attractiveness of a country to tourists and its level of development. Our results suggest a larger effect of terrorism and crime on tourism for personal reasons in less tourist attractive countries. Similarly, the effect of corruption is larger in less attractive countries, but this is only true for tourism for business reasons. Our results therefore suggest that attractiveness to tourists moderates the effect of instability on inbound tourism. Tourism in countries with a large number of world heritage sites that attract large numbers of tourists every year is less affected by events of terrorism, crime or corruption since these destinations cannot be easily substituted. For the effects of development level we obtained mixed results. We found that terrorism has a larger effect on tourism in developing than developed countries. In contrast, we found that crime has a significantly negative effect on total tourism and on tourism for personal reasons in developed countries but no significant effect in developing countries. Since crime rates are high in developing countries, when tourists choose a less developed country as a holiday destination, they may assume that they have to tolerate a certain level of crime. Finally, we found that an increase in the perceived level of corruption only reduces tourist arrivals for business reasons to developing countries. Interestingly, we found a positive effect of corruption on total tourist arrivals to less developed countries.

The three-dimensional analysis (origin, destination and year) is an important contribution of our research since the few papers in the literature that have studied the effect of political and institutional variables on tourism mainly apply the two-dimensional analysis (destination and year) where data on total arrivals only to the destination country are considered. It allowed us to explore the effect of instability not only in the

destination country but also in the origin one. We considered the effect of similarities in the instability measures between the destination and the origin country. As in the two-dimensional analysis, we found that terrorism, crime and corruption in the destination country have a negative effect on inbound tourism, while instability in the origin country has no clear effect on tourist departures. What is more interesting, our results suggest that tourists from stable countries prefer travelling to countries with the same conditions, while tourists from unstable countries are more tolerant of terrorism, crime and corruption in the destination country.

In conclusion, our analysis found that political and institutional instability, measured in terms of terrorism, crime and corruption, discourages international tourism movement. We suggest that tourism demand models should incorporate proxies for political risk and the quality of institutions at the destination country to obtain a more accurate forecast of tourist arrivals.

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Figure 1. Countries classified by attractiveness to tourists

Note: Black indicates *Countries attractive to tourists*, dark grey indicates *Countries unattractive to tourists* and light grey indicates countries not in the estimation sample.

Figure 2. Countries classified by development levels

Note: Black indicates *Developed countries*, dark grey indicates *Developing countries* and light grey indicates countries not in the estimation sample.

Table 1. Descriptive statistics – two-dimensional analysis

Variable |	Obs	Mean	Std. dev.	Min	Max
$LnTou_{it}$	2,984	13.568	2.165	6.802	18.258
$LnPersonal_{it}$	2,302	13.325	2.269	5.991	18.125
$LnBusiness_{it}$	2,258	11.722	2.116	4.605	16.491
$LnGDPpc_{it}$	3,251	8.098	1.583	4.848	11.364
$LnPop_{it}$	3,251	15.522	2.134	9.130	21.060
VA_{it}	3,251	0.028	0.965	-2.210	1.826
$LnPrice_{it}$	3,251	-0.739	0.524	-2.238	0.618
$Terrorism_{it}$	3,251	0.005	0.020	0	0.810
$Crime_{it}$	2,005	0.840	1.280	0	13.913
$Corruption_{it}$	2,106	4.324	2.209	0.4	10

Table 2. Descriptive statistics – three-dimensional analysis

Variable |	Obs	Mean	Std. dev.	Min	Max
$LnTou_{ijt}$	198,797	6.844	3.273	0.000	18.185
$LnGDPpc_{it}$	188,879	8.443	1.445	4.848	11.364
$LnPop_{it}$	197,065	15.933	2.198	9.130	21.060
$LnVA_{it}$	195,906	0.054	0.923	-2.224	1.826
$LnGDPpc_{jt}$	189,563	8.626	1.661	3.913	11.364
$LnPop_{jt}$	195,189	16.202	1.914	9.130	21.060
$LnVA_{jt}$	197,310	0.203	1.039	-2.284	1.826
$LnDist_{ij}$	198,049	8.493	0.954	2.349	9.901
$Border_{ij}$	198,049	0.038	0.191	0	1
$Language_{ij}$	198,049	0.196	0.397	0	1
$Colony_{ij}$	198,049	0.023	0.151	0	1
$Curcol_{ij}$	198,049	0.002	0.043	0	1
$Smctry_{ij}$	198,049	0.018	0.134	0	1
RTA_{ijt}	197,224	0.169	0.375	0	1
$Relig_{ijt}$	198,484	0.186	0.234	0	1
$Terrorism_{it}$	196,107	0.006	0.024	0	0.466
$Terrorism_{jt}$	194,379	0.006	0.031	0	0.810
$SimilTerror_{ijt}$	191,740	0.463	0.499	0	1
$DiffTerror_{ijt}$	191,740	0.000	0.038	-0.810	0.466
$Crime_{it}$	134,456	0.853	1.295	0	13.913
$Crime_{jt}$	139,798	0.676	1.180	0	13.913
$SimilCrime_{ijt}$	100,037	0.560	0.496	0	1
$DiffCrime_{ijt}$	100,037	0.169	1.676	-13.859	13.913
$Corruption_{it}$	144,631	4.433	2.125	0.4	10
$Corruption_{jt}$	149,997	4.959	2.430	0.4	10
$SimilCorrup_{ijt}$	126,770	0.460	0.498	0	1
$DiffCorrup_{ijt}$	126,770	-0.469	3.105	-9.5	9

Table 3. Effects of terrorism, crime and corruption on total tourist arrivals

	$Terrorism$		$Crime$		$Corruption$	
	(1a)	(1b)	(2a)	(2b)	(3a)	(3b)
$LnGDPpc_{it}$	1.033***	0.957***	1.348***	1.318***	0.841***	0.885***
	-0.274	-0.257	-0.354	(0.343)	-0.184	(0.172)
$LnPop_{it}$	1.069***	1.063***	0.858*	0.853*	0.901**	0.808**
	-0.376	-0.364	-0.478	(0.471)	-0.368	(0.362)
$LnVA_{it}$	0.198**	0.189**	0.358**	0.318**	0.134*	0.155*
	-0.0988	-0.0906	-0.143	(0.143)	-0.0785	(0.0828)
$LnPrice_{it}$	0.164	0.192	-0.0623	-0.0544	-0.0358	-0.0905
	-0.136	-0.139	-0.154	(0.163)	-0.129	(0.125)
$Terrorism_{it}$	-2.321***		-1.822***		-2.584***	
	-0.637		-0.62		-0.752	
$Terrorism_{it-1}$		-1.744***		-1.539**		-1.938*
		-0.652		(0.768)		(0.995)
$Crime_{it}$			-0.0657***			
			-0.0157			
$Crime_{it-1}$				-0.0619***		
				(0.0150)		
$Corruption_{it}$					0.0129	
					-0.0362	
$Corruption_{it-1}$						0.00530
						(0.0335)
Observations	2,135	2,032	1,883	1,810	1,762	1,655
R-squared	0.593	0.586	0.525	0.497	0.557	0.555
Countries	171	171	166	164	121	121

For simplicity, year and country fixed effects and constant are not reported. Columns (1a), (2a) and (3b) present the immediately effect of instability on tourism, while columns (1b), (2b) and (3b) present the lagged impact. Robust standard errors in parentheses. Significance level: *** p<0.01, ** p<0.05, * p<0.1

Table 4. Effects of terrorism, crime and corruption on tourist arrivals according to purpose of trip, and attractiveness and level of development of country

		$Terrorism$	$Crime$	$Corruption$
All countries (171)	$LnTou_{it}$	-2.328***	-0.0657***	0.012
	$LnPersonal_{it}$	-3.454***	-0.0718***	0.0503
	$LnBusiness_{it}$	-2.155*	-0.0415	0.113***
Countries attractive to tourists (88)	$LnTou_{it}$	-2.343***	-0.0489	0.0426
	$LnPersonal_{it}$	-3.235***	-0.00932	0.0551
	$LnBusiness_{it}$	-0.401	0.108	0.0793*
Countries unattractive to tourists (83)	$LnTou_{it}$	-2.092**	-0.0703***	-0.077
	$LnPersonal_{it}$	-3.284***	-0.0803***	0.00527
	$LnBusiness_{it}$	-2.646*	-0.0809*	0.194**
Developed countries (99)	$LnTou_{it}$	-2.025***	-0.0728***	0.0503
	$LnPersonal_{it}$	-3.032***	-0.0616*	0.0886
	$LnBusiness_{it}$	-2.737**	-0.0174	0.0667
Developing countries (72)	$LnTou_{it}$	-4.397*	-0.0238	-0.186**
	$LnPersonal_{it}$	-5.535**	-0.0323	-0.0218
	$LnBusiness_{it}$	-2.079	-0.0702	0.214*

Significance level: *** p<0.01, ** p<0.05, * p<0.1

Table 5. Effects of terrorism, crime and corruption on total tourist arrivals by country of origin

	$Terrorism$		$Crime$		$Corruption$	
	(1a)	(1b)	(2a)	(2b)	(3a)	(3b)
$LnGDPpc_{it}$	1.135***	1.134***	1.045***	1.050***	0.974***	1.011***
	(0.0409)	(0.0410)	(0.0585)	(0.0583)	(0.0456)	(0.0457)
$LnPop_{it}$	0.925***	0.923***	0.245*	0.217	0.560***	0.518***
	(0.0754)	(0.0754)	(0.137)	(0.136)	(0.104)	(0.104)
$LnVA_{it}$	0.199***	0.201***	0.227***	0.226***	0.0193	0.0388
	(0.0213)	(0.0213)	(0.0332)	(0.0331)	(0.0268)	(0.0269)
$LnGDPpc_{jt}$	0.644***	0.644***	0.694***	0.699***	0.625***	0.675***
	(0.0441)	(0.0441)	(0.0789)	(0.0793)	(0.0527)	(0.0515)
$LnPop_{jt}$	0.315***	0.311***	0.695***	0.671***	0.428***	0.446***
	(0.0725)	(0.0725)	(0.163)	(0.163)	(0.0895)	(0.0901)
$LnVA_{jt}$	-0.0266	-0.0246	-0.0233	-0.0222	-0.0264	-0.00576
	(0.0235)	(0.0235)	(0.0441)	(0.0437)	(0.0312)	(0.0311)
$LnDist_{ij}$	-1.410***	-1.410***	-1.334***	-1.338***	-1.328***	-1.328***
	(0.0209)	(0.0209)	(0.0223)	(0.0220)	(0.0227)	(0.0227)
$Border_{ij}$	1.061***	1.061***	0.834***	0.833***	1.137***	1.139***
	(0.103)	(0.103)	(0.123)	(0.123)	(0.104)	(0.104)
$Language_{ij}$	0.986***	0.986***	0.935***	0.937***	0.998***	0.998***
	(0.0386)	(0.0386)	(0.0445)	(0.0445)	(0.0412)	(0.0412)
$Colony_{ij}$	0.865***	0.865***	0.667***	0.666***	0.698***	0.699***
	(0.102)	(0.102)	(0.101)	(0.101)	(0.103)	(0.103)
$Curcol_{ij}$	-1.643	-1.643	-1.216	-1.218	-2.662*	-2.669*
	(1.138)	(1.138)	(1.133)	(1.134)	(1.437)	(1.436)
$Smctry_{ij}$	0.338***	0.339***	0.298**	0.299**	0.151	0.149
	(0.128)	(0.128)	(0.147)	(0.147)	(0.136)	(0.136)
RTA_{ijt}	0.683***	0.684***	0.617***	0.621***	0.655***	0.658***
	(0.0369)	(0.0369)	(0.0409)	(0.0410)	(0.0392)	(0.0393)
$Relig_{ijt}$	1.218***	1.217***	1.127***	1.127***	1.306***	1.308***
	(0.0554)	(0.0554)	(0.0627)	(0.0626)	(0.0596)	(0.0593)
$Terrorism_{it}$	-0.513***		-1.838***	-1.840***	-1.080***	-1.093***
	(0.151)		(0.238)	(0.238)	(0.174)	(0.174)
$Terrorism_{jt}$	0.560***		-0.0796	-0.0907	0.346*	0.232
	(0.204)		(0.363)	(0.362)	(0.205)	(0.205)
$SimilTerror_{ijt}$	0.0345***					
	(0.00982)					
$DiffTerror_{ijt}$		-0.548***				
		(0.135)				
$Crime_{it}$			-0.0191*			
			(0.0116)			
$Crime_{jt}$			0.0106			
			(0.0137)			
$SimilCrime_{ijt}$			0.0538**			
			(0.0263)			
$DiffCrime_{ijt}$				-0.0156*		
				(0.00890)		
$Corruption_{it}$					0.0820***	
					(0.00928)	
$Corruption_{jt}$					0.0155	
					(0.0102)	
$SimilCorrup_{ijt}$					0.0195	
					(0.0220)	
$DiffCorrup_{ijt}$						0.0347***
						(0.00685)
Observations	176,672	176,672	92,250	92,250	120,048	120,048
R-squared	0.843	0.843	0.872	0.872	0.856	0.856

For simplicity, destination, origin and year fixed effects and constant are not reported. In columns (1a), (2a) and (3a) the similarity in the instability variables are included, while columns (1b), (2b) and (3b) present the differences in the instability proxies. Robust standard errors in parentheses. Significance level: *** p<0.01, ** p<0.05, * p<0.1

Appendix

Table A1. Effects of terrorism on total tourist arrivals

	$Terrorism$		$Terrorism2$		$Terrorism3$	
	(1a)	(1b)	(2a)		(1a)	(1b)
$LnGDPpc_{it}$	1.362***	1.286***	1.359***	1.284***	1.353***	1.280***
	(0.240)	(0.232)	(0.241)	(0.232)	(0.241)	(0.232)
$LnPop_{it}$	1.196***	1.181***	1.204***	1.186***	1.199***	1.189***
	(0.327)	(0.318)	(0.328)	(0.318)	(0.329)	(0.318)
$LnVA_{it}$	0.180**	0.172**	0.179**	0.169**	0.181**	0.170**
	(0.0889)	(0.0820)	(0.0894)	(0.0822)	(0.0903)	(0.0829)
$LnPrice_{it}$	-0.00170	0.0419	0.00249	0.0446	0.00237	0.0426
	(0.130)	(0.129)	(0.129)	(0.128)	(0.129)	(0.129)
$Terrorism_{it}$	-2.328***					
	(0.573)					
$Terrorism_{it-1}$		-1.755***				
		(0.596)				
$Terrorism2_{it}$			-4.297**			
			(1.894)			
$Terrorism2_{it-1}$				-3.855**		
				(1.677)		
$Terrorism3_{it}$					-0.492**	
					(0.232)	
$Terrorism3_{it-1}$						-0.437**
						(0.178)
Observations	2,984	2,840	2,985	2,841	2,985	2,841
R-squared	0.518	0.511	0.516	0.511	0.515	0.510
Countries	171	171	171	171	171	171

For simplicity, year and country fixed effects and constant are not reported. Robust standard errors in parentheses.
Significance level: *** p<0.01, ** p<0.05, * p<0.1