THE EFFECTS OF ECONOMIC CRISES, EPIDEMICS AND TERRORISM ON TOURISM

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Abstract

The current study examines the effects of three types of modern crises - economic crises, terrorism and epidemics - on the movement of tourists. The five countries chosen as countries of origin each have populations exceeding 10 million and are among the top tourism spenders per capita. Singapore, Spain and Vietnam were chosen as the destination countries, as these countries have experienced terrorism or epidemics or both.

The findings for our sample countries show that the positive effect of economic crises in the destination country and the negative effect of exchange rates on incoming tourism exceed the effects of either terrorism or epidemics. In addition, the findings suggest that terrorism in the origin country had a negative effect on tourism to Spain from the US and Japan, while terrorism in the destination country (Spain) had a negative effect on tourism to Spain from the UK. Terrorism in the destination country seems to affect mainly countries that are geographically close, while terrorism in the origin country affects tourism to countries that are far away. We conclude that terrorism, epidemics and economic crises have differential impacts on the movement of tourists from various countries of origin to various destination countries.

Key words: Tourism, Terrorism, Epidemic, Economic Crisis.

1. Introduction

Tourism is one of the world's fastest growing industries and is an important source of income for many countries. At the same time, the global tourism industry is very vulnerable to external events, among them recession, terrorism, disease or natural disasters. For example, the World Travel and Tourism Council (WTTC, 2003) estimated that approximately 3 million people in the tourism industry lost their jobs following the outbreak of SARS in China, Hong Kong, Vietnam and Singapore, resulting in losses of over 20 billion dollars in terms of GDP. The WTTC (WTTC, 2002) also estimated that after the events of September 11, 2001, the USA lost 92 billion dollars in travel and tourism, followed by Germany with a loss of 25 billion dollars and the UK with a loss of 20 billion.

The effects of different crises on tourism have been extensively researched in the past, though usually what has been examined is the effect of a single crisis on a single destination. These studies found that while the tourism economy is highly influenced by crises, tourism itself recovers rapidly (Keller, et al., 2010). The effects of a pandemic on the economy in general and on tourism in particular have been analyzed and discussed in the literature after every pandemic. For example, Burns et al. (2008) estimated that the direct economic costs of the avian flu in 2004 were small, totaling only 0.1 percent of GDP, but at the same time the indirect costs were about 0.7 percent of the GDP. In developing countries where the poultry sector is more important and relatively labor intensive, up to 5 million jobs can be lost (Burns, et al., 2008). In addition, the avian flu may have a negative impact on how the affected countries are perceived by adversely harming their image as a safe tourism destination, leading to a decline in international tourism to that destination (Page, et al., 2006). Kuo et al. (2009) found that after the outbreak of avian flu, the demand for international tourism decreased. The reduction in international tourism to Asia was more severe than the harm caused to international tourism in general, possibly because most human cases of avian flu were detected in Asia.

Several studies found that international tourism to Asia was badly affected by SARS, but not by the avian flu (Kuo, et al., 2008; McAleer, 2010), possibly because at least for the time being avian flu cannot be spread from human to human. In addition, Kuo et al. (2008) found that the impact on the destination countries can differ. In the case of Indonesia, Kuo et al. (2008) included terrorism in Bali as one of the explanatory variables and found its effect to be significant. At the same time the effect of avian flu was not found to be significant. Some reports assess the potential macroeconomic effects of pandemics using economic models (US Congressional Budget Office, 2005; James, et al., 2006; McKibbin, et al., 2006; Jonung, et al., 2006).

Furthermore, since the 1980s the effects of terrorism on tourism have been extensively investigated by means of empirical research. Arana and Leon (2008) found that the prevalence of tourist visits to several destinations in the Mediterranean and the Canary Islands was lower after September 11 and that the willingness to pay for a vacation decreased. Enders and Sandler (1992) found that terrorism (measured as the number of incidents in a country) has a negative effect on tourism and that the effect is externalized, so that an incident in one country acts to deter tourism in neighboring countries. Studying the Middle East, Mansfeld (1996) concluded that in general terrorist incidents had a different impact on the countries in the inner circle (i.e., countries that are part of the Israel-Arab conflict) than on those in the outer ring. These latter countries usually enjoyed positive spillover effects, whereby tourists chose to go to those countries instead of going to the inner

ring countries. The impact of terrorism on the inner ring countries depended on the level of involvement of any particular country in the incident. Several empirical studies have considered the effect of terrorism on tourism (Tremblay, 1989; Pizam, et al., 2001; Pizam, et al., 2000; Mansfeld, 1999; Sonmez, et al., 1999). Fielding and Shortland (2005) found that the number of tourists visiting Israel decreased in response to increased fatalities there.

The potential and actual effects of economic crises on tourism have been researched extensively, especially after the economic crises of 2008-2009. Smeral (2011) studied the macroeconomic impact on the demand for tourism in five main origin markets: Australia, Japan, US, Canada and EU. Smeral estimated that after the 2008-2009 crises worldwide, outbound tourism expenditures fell by almost 10% in 2009 and showed a slight recovery of 1% in 2010.

While most previous studies examined the effect of a single crisis on the movement of tourists to a single destination, the current study examined the impact of several crises, occurring both in the origin and in the destination countries, on tourism to popular tourist destinations. In particular, the study examines and compares the impact of economic crises, terrorism and epidemics on tourism from five origin countries (USA, UK, France, Germany and Japan) to three popular tourist destinations (Spain, Singapore and Vietnam).

The objectives of the study are (a) to identify how economic crises, terrorism and epidemics influence the number of incoming tourists to Spain, Singapore and Vietnam from several origin countries, and (b) to identify, for each of these three countries, the type of crises having the most significant impact on the number of the incoming tourists. To the best of our knowledge, such a comparison has not been made before. The results of the study may help policymakers focus their tourism marketing efforts and plan steps to diminish the implications of crises on incoming tourism to these countries.

The main hypothesis of the current research is that economic crises, terrorism and epidemics have differential effects on the number of incoming tourists to a particular countriy. This hypothesis is based on previous findings indicating that epidemics and terrorism decrease the number of tourists (Kuo, et al., 2009; Kuo, et al., 2008; (Enders, et al., 1992), and that these effects depend on the proximity of the destination country to the origin countries (Mansfeld, 1996).

The rest of the paper is organized as follows. Section 2 describes the methods and the data, Section 3 discusses the results and their implications and Section 4 summarizes the paper.

2. Methodology

The study was based on aggregate yearly data on the number of tourists for the period 1995-2009[1] taken from World Tourism Organization publications (1997-2010).

The data on the number of tourists were collected from statistics published annually in the Yearbook of Tourism, while the data for cases of influenza are based on World Health

[1] It was not possible to find aggregate data for all the countries in question on a monthly or quarterly basis, let alone individual data. Furthermore, analyzing data on an annual basis enables us to ignore the effect of seasonality.

Organization data (1995-2010). For each destination country, the data on the number of terrorist incidents during the research period were collected based on the Global Terrorism Dataset (1995-2012). The data regarding economic crises are based on the Economic Research Services of the US Department of Agriculture (1995-2010).

The study focused on the USA, Germany, UK, Japan and France as origin countries, since these countries have the highest per capita expenditures on tourism among countries with populations greater than 10 million.

For the destination countries, we chose three popular tourist destinations: Spain, Singapore, and Vietnam. (a) During the research period, Spain experienced terrorist incidents, many carried out by the Basque Fatherland and Freedom (ETA). These incidents mainly targeted police and military targets, but also business and transportation. During those years in Spain, the number of terrorist incidents per year ranged from 2 to 26, with an average of 11.5 terrorist incidents annually (START, 2012). See Graph 1 in Appendix 1 for further details. (b) Potential tourists highly associate Singapore with influenza epidemics (241 cases in the SARS epidemic in 2003 (GAR). See Graph 2 in Appendix 1 for further details. (c) Potential tourists highly associate Vietnam with influenza epidemics and terrorist incidents. Vietnam had 63 reported cases of SARS in 2003 (GAR) and 106 and 685 reported cases of swine flu in 2008 and 2009, respectively. Vietnam did not experience as many terrorist incidents as Spain, but these incidents made a big impression since they were directed at civilian targets including the water and food supply, and they occurred in the capital Ho Chi Minh City (START, 2012). See Graph 3 in Appendix 1 for details.

3. Analysis

The model included multiple regression analyses built by stepwise routines using SPSS17 software. Ten different regressions were constructed for each of the destination countries for the years 1995-2009. The dependent variable of the model was the number of tourists coming from a specific origin to a specific destination. The independent variables (for 1995-2009) were: number of terrorist incidents in the origin and the destination countries; number of epidemic cases in the origin and the destination countries; the monetary exchange rate between the origin and the destination; a dummy variable for the years in which there were economic crises.

4. Results

Tables 1, 2 and 3 summarize the results of the regression analyses for the destination countries (Spain, Singapore and Vietnam, respectively), with annual number of incoming tourists from the origin countries as the dependent variable[2].

[2] The countries that were not significant are not shown in the table.

Table 1 Results of regression analysis for Spain as a destination country[3].

Origin countries / Variables	U.S. Coefficient (S.E.)	U.K. Coefficient (S.E.)	Japan Coefficient (S.E.)
Terrorism origin	-29007.70* (10295.20)		-15331.37* (6457.790)
Terrorism Destination		-84318.38* (37674.12)	
Exchange Rate	-826037.40* (296511.80)	-9538831.80* (3391537.99)	
Economic Crisis Destination	415482.69* (111542.70)	1479740.20* (655092.88)	-98615.50* (43647.12)
R^2	0.66**	0.60*	0.43*
* p < .05, ** p < .01, *** p < .001			

Table 1 shows the impact of the significant explanatory variables on tourism to Spain from the following origin counties:

(a) USA: Tourism to Spain from the USA was significantly negatively affected by the exchange rate and by the number of terrorist incidents in the USA. In addition, it was significantly positively affected by the economic crisis in Spain. The effect of the exchange rate was the highest, while the effect of terrorist incidents was the lowest.
(b) UK: Tourism to Spain from the UK was significantly negatively affected by terrorist incidents in Spain and by the exchange rate. It was also significantly positively affected by the economic crisis in Spain. The effect of the exchange rate was highest, while the effect of terrorist incidents in Spain was lowest.
(c) Japan: Tourism to Spain from Japan was negatively affected by terrorist incidents in Japan and by the economic crisis in Spain. The economic crises showed a stronger effect. In most of the other cases, economic crises in the destination country had a positive effect on tourism. Yet in the case of Japan, the economic crisis had a negative effect. Cultural differences between Japanese tourists and tourists from other countries may explain this result. In the case of Japan, potential tourists may be worried about traveling to a country that has high rates of unemployment, demonstrations and strikes.
(d) France: Only the economic crisis in Spain positively affected the number of tourists from France to Spain[4].
(e) Germany: Germany as an origin country did not exhibit any significant effects of the independent variables on tourism to Spain[5].

[3] A stepwise regression was used. Only significant results are shown in the table.
[4] Data not shown in the table.
[5] Data not shown in the table.

Table 2 Results of regression analysis for Singapore as a destination country[6].

Origin countries / Variables	US Coefficient (S.E.)	Germany Coefficient (S.E.)	U.K. Coefficient (S.E.)	France Coefficient (S.E.)
Epidemic origin		-5444.99** (1419.63)		-4870.31** (1479.05)
Terrorism origin	-4561.00** (1109.66)			
Epidemic destination			-402.68* (182.84)	
Exchange Rate			-982803.40** (164385.06)	-139303.40** (35605.04)
Economic Crisis Destination				15137.99* (5793.65)
R^2	0.59**	0.55**	0.77**	0.76**
* p < .05, ** p < .01, *** p < .001				

Table 2 shows the impact of the significant explanatory variables on tourism to Singapore from the following origin counties:

(a) USA: Tourism to Singapore from the USA was negatively affected by the number of epidemics in the USA.
(b) UK: Tourism to Singapore from the UK was negatively affected by the exchange rate and the number of epidemics in Singapore. The effect of the exchange rate was much stronger.
(c) Germany: Tourism to Singapore from Germany was negatively affected by the number of epidemics in Germany.
(d) France: Tourism to Singapore from France was negatively affected by the number of epidemics in France and by the exchange rate, while it was positively affected by the economic crisis in Singapore. The exchange rate had the strongest effect on incoming tourism, while the epidemics had the smallest effect.
(e) Japan: For Japan as an origin country we did not find any significant effect of the independent variables on tourism to Singapore.

[6] A stepwise regression was used. Only significant results are shown in the table.

Table 3 Results of regression analysis for Vietnam as a destination country[7].

Origin countries / Variables	US Coefficient (S.E.)	Germany Coefficient (S.E.)	U.K. Coefficient (S.E.)
Terrorism Origin	-199344.485** (52779.245)		
Terrorism Destination		-55480.000* (19508.959)	
Economic crisis		41775.950* (12045.894)	40797.300* (16342.697)
Exchange Rate		-2209155000** (706779187.5)	
R^2	0.543**	0. 749*	0.324*
* p < .05, ** p < .01, *** p < .001			

For Vietnam as a destination country the impact of the explanatory variables on tourism from the following origin counties is:

(a) USA: Tourism to Vietnam from the USA was negatively affected by the number of terrorist incidents in the US.
(b) U.K.: Tourism to Vietnam from the UK was positively affected by economic crises in Vietnam.
(c) Germany: Tourism to Vietnam from Germany was negatively affected by the number of terrorist incidents in Vietnam and by the exchange rate, and positively affected by economic crises in Vietnam. The exchange rate had the strongest effect, while the economic crises had the smallest effect.
(d) France and Japan: For France and Japan as origin countries we did not find any significant effect of the independent variables on tourism to Vietnam.

5. Discussion

The current study examined the impact of various crises in both the origin and the destination countries on tourism to popular tourist destinations. In particular, we examined the impact of economic crises, terrorism and epidemics on tourism from five origin countries (USA, UK, France, Germany and Japan) to two popular tourist destinations (Spain and Singapore).

Our results suggest that incidents of terrorism, epidemics and economic crises have a differential impact on the movement of tourists from various countries of origin to various destination countries, compatible with our hypothesis. The findings for our sample countries show that the positive effect of economic crises in the destination country and the negative effect of exchange rates on incoming tourism are larger than the effects either of terrorism or of epidemics.

[7] A stepwise regression was used. Only significant results are shown in the table.

The findings also suggest that terrorism in the origin country had a negative effect on tourism to Spain from the US and Japan, while terrorism in the destination country (Spain) had a negative effect on tourism to Spain from the UK. Fielding and Shortland (2005) found that tourists from countries with lower levels of economic development are less sensitive to violence.

Terrorism in the origin country affects tourism to countries that are geographically far away (US, Japan and Spain). An earlier study by Mansfeld (1996) found a different effect of terrorism, leading the author to conclude that in general terrorist incidents had a different impact on the countries in the inner circle (i.e., countries that are part of the Israel-Arab conflict) than on those in the outer ring. The outer ring countries usually enjoyed positive spillover effects, whereby tourists chose to go to those countries rather than to the inner ring countries.

It is interesting to note that neighboring countries (e.g., in the same region) were not affected by terrorism or by epidemics. For example, when Singapore was the destination country, tourism from Japan as an origin country was not affected. In addition, when Spain was the destination country, tourism from Germany and from France was not affected. In the case of Vietnam, the neighboring country Japan was not affected, and France was also not affected[8].

The findings of the current study also suggest that epidemics have a negative effect on the number of tourists. This is in line with previous research (Kou, 2008, 2009). Yet our findings showed that epidemics affected only tourists from the UK, while previous research did not distinguish between different origin countries.

The main contribution of the current study is in the combination of different types of crises, while previous research usually focused on one type of threat. In addition, this research combined several destination countries and several origin countries. In the current study we also examined the effects of terrorism and epidemics in the origin country. We found no references to these effects in previous research.

In the origin countries, the impact of crises on tourism may also be related to the volume of media coverage of events occurring in the destination country. Therefore, our findings about the impact of various crises may also be related to the social amplification model (Kasperson et al., 1988; Renn et al., 1992; Burns et al., 1993). Amplification occurs in the transfer of information about risk (e.g., by the media). The amplified risk leads to behavioral responses that, according to Renn et al. (1992), in turn cause “secondary social or economic consequences that extend far beyond direct harm to humans or the environment" (p.140). Further research should examine the impact of media and other communications channels on the demand for tourism in the presence of adverse events.

The main limitation of the current research is that we used annual data instead of monthly data. Annual data are not ideal since crises that occur at the end of the year may have an impact on tourism movement at the beginning of the following year. Nevertheless,

[8] One of the languages spoken in Vietnam is French, perhaps making it easier for French tourists to travel to Vietnam.

over a long period of time the major impact of crises on tourism movements can be reflected by annual data.

Future research should examine the separate effects of major events occurring in the origin and the destination countries on incoming tourism. Moreover, more destination countries and more origin countries should be used in the research. In addition, future research can examine the impact of additional types of crises (e.g., natural disasters) on tourism movement and compare this to the impact of the types of crises mentioned in the current study.

6. Conclusions

The main conclusion is that the effect of different crises on tourism movement depends both on the destination country and on the origin country. In general, the effects of economic crises and of exchange rate fluctuation are much higher than the effect of terror events or epidemics on tourism movements. More specifically, terrorism in the origin country affects tourism movement to countries that are geographically far away, while tourism to neighboring countries (e.g., in the same region) was not affected by terrorism or by epidemics.

Finally, the results of the current study may help policymakers in incoming tourism countries identify the main factors that affect tourism movements to their country and focus their tourism marketing efforts accordingly (e.g., different marketing efforts for long-distance tourists versus short - distance tourists). In turn, these steps can reduce the negative impacts of various crises on tourism movements. These implications are especially important for recovery in countries which tourism is one of the main sources of incomes.

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Appendices

Figure 1 Number of tourists to Spain**.**

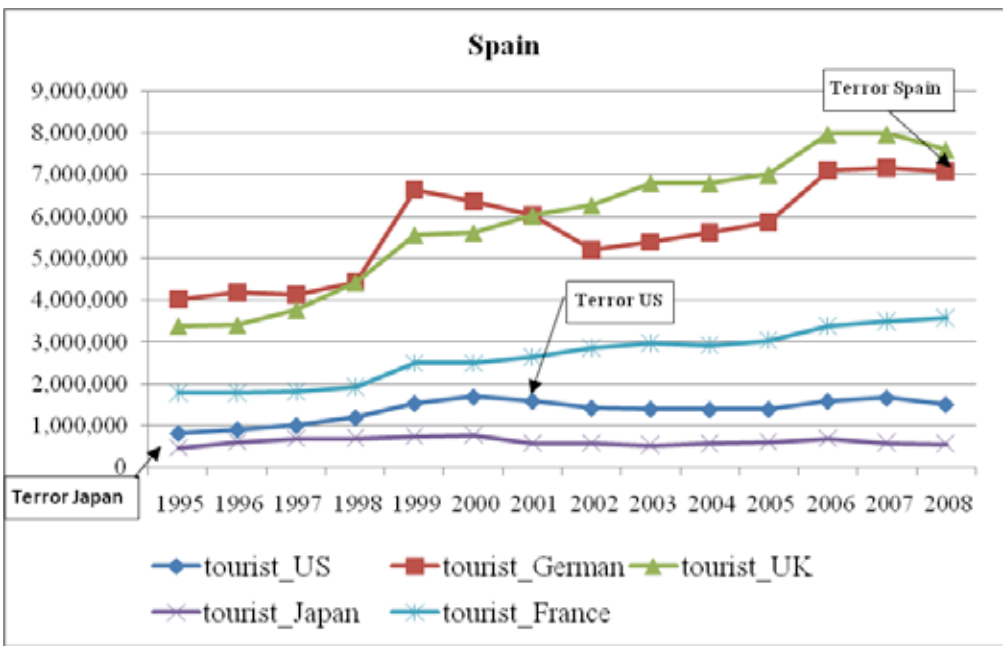
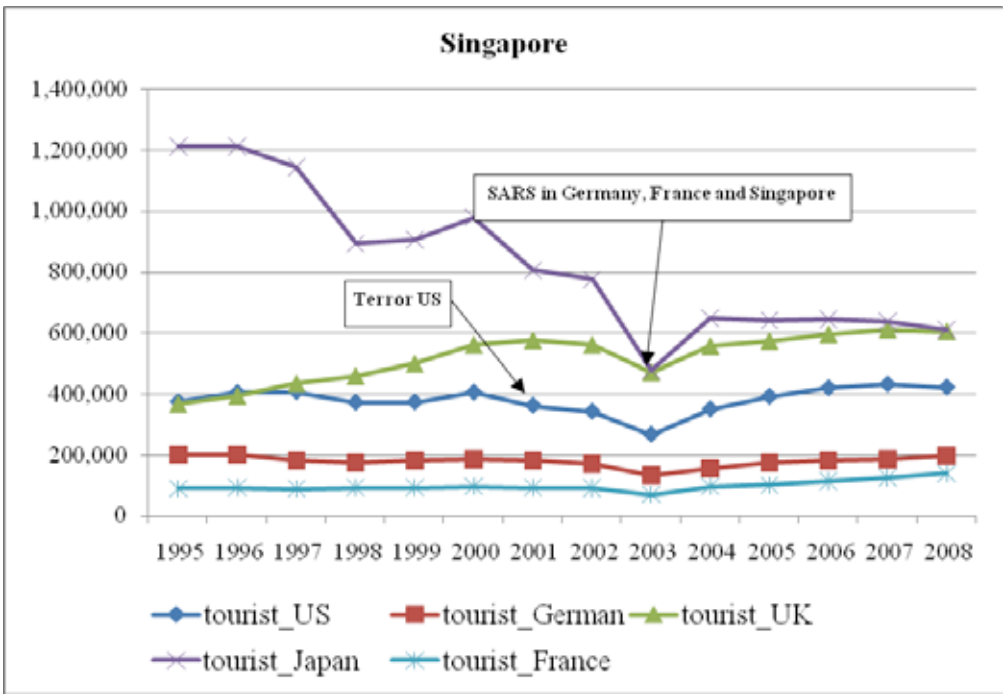


Figure 2 Number of tourists to Singapore.



2003 = SARS

Figure 3 Number of tourists to Vietnam.