

The Effect of Economic Crises, Epidemics and Terrorism on Tourism ***Sharon Teitler-Regev**Department of Economics and Management, The Max Stern Emek Yezre
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Abstract

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

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 either of terrorism or of 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.

Keywords: Tourism, Terrorism, Epidemic, Economic Crisis.**1. Introduction**

Tourism is one of the fastest growing industries and is an important source of income for many countries. At the same time, the global tourism industry is very sensitive 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 the effect of a single crisis on a single destination is examined. 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 (Burns, et al., 2008; Kuo, et al., 2009; Page, et al., 2006). For example, international tourism to Asia was badly affected by SARS, but the size of the effect varied with the destination country (Kuo, et al., 2008; McAleer, et al., 2010).

In addition, since the 1980s the effects of terrorism on tourism have been extensively studied 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. Fielding and Shortland (2005) found that the number of tourists visiting Israel decreased in response to increased fatalities there.

While the majority of 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 two popular tourist destinations (Spain and Singapore). To the best of our knowledge, this comparison has not been made before.

2. Methods

We used aggregate yearly data regarding the number of tourists for the period 1995-2009^a taken from World Tourism organization publications (1997-2010). The study focuses on the USA, Germany, UK, Japan, and France as origin countries since these countries spend the most per capita on tourism among countries with populations greater than 10 million.

For the destination countries, we chose two popular tourist destinations: Spain, which experienced many terrorist incidents during the years of the research, and Singapore, which potential tourists highly associate with influenza epidemics. The data regarding cases of influenza are based on World Health Organization data (1995-2010). For every destination country, the data on number of terrorist incidents during the research period were collected based on the Global Terrorism Dataset. The data regarding the economic crises are based on the Economic Research Services of the US Department of Agriculture.

The model included multiple regression analyses and was built by stepwise routines using SPSS17 software.

^a 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 a yearly basis allows us to ignore the effect of seasonality.

3. Results

Tables 1 and 2 summarize the results of the regression analyses for the destination countries (Spain and Singapore), with annual number of incoming tourists from each of the five origin countries as the dependent variable. The explanatory variables included number of terrorist incidents in the origin and the destination countries, number of epidemics in the origin and the destination countries (separately), the exchange rate and a dummy variable indicating whether or not there was an economic crisis in the destination country.

Table 1. Results of regression analysis for Spain as a destination country^b

Origin countries	US	U.K.	Japan	France
Variables	Coefficient	Coefficient	Coefficient	Coefficient
	(S.E.)	(S.E.)	(S.E.)	(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)	809378.95* (325877.02)
R²	0.66**	0.60*	0.43*	0.32*
* p < .05, ** p < .01, *** p < .001				

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

^b A stepwise regression was used .Only significant results are shown in the table.

- (a) USA: Tourism to Spain was negatively affected by the exchange rate and by the number of terrorist incidents in the USA. It was 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 was negatively affected by terrorist incidents in Spain and by the exchange rate. It was 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 was negatively affected by terrorist incidents in Japan and by the economic crisis in Spain. The economic crises had 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 it 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 at a time of crisis.
- (d) France: Only the economic crisis in Spain positively affected the number of tourists from France to Spain.
- (e) Germany: For Germany as an origin country we did not find any significant effect of the independent variables on tourism to Spain.

Table 2: Singapore as a destination country^c

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				

^c A stepwise regression was used. Only significant results are shown in the table.

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

- (a) USA: Tourism to Singapore was negatively affected by the number of epidemics in the USA.
- (b) UK: Tourism to Singapore 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 was negatively affected by the number of epidemics in Germany.
- (d) France: Tourism to Singapore was negatively affected by the number of epidemics in France and by the exchange rate, while positively affected by the economic crisis in Singapore. The exchange rate had the strongest effect on incoming tourism, while the epidemic 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.

4. Discussion

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.

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.

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. It is possible that terrorism in the destination country mainly affects countries that are geographically close (Spain and UK), while terrorism in the origin country affects tourism to countries that are geographically far away (US, Japan and Spain).

It is interesting to note that neighboring countries were unaffected either by terrorism or by epidemics. For example, when Singapore is the destination country, tourism from Japan as an origin country was not affected. In addition, when Spain is the destination country, tourism from Germany and from France was not affected.

Future research should examine the separate effects of such major events in the origin and the destination countries on incoming tourism.

5. References

1. Arana, J. E. and Leon, C J. (2008), "The Impact of Terrorism on Tourism Demand," *Annals of Tourism Research*, Vol. 35, No. 2, pp. 299-315.
2. Burns, A., Van der Mensbrugge, D. & Timmer, H. (2008), "Evaluating the Economic Consequences of Avian Influenza," s.l.: World Bank Washington, 2008.
3. Fielding, D. & Shortland, A. (2005), "Are Americans more gung-ho than Europeans? Evidence from Tourism in Israel During the Intifada," University of Otago Working Discussion Papers,

N 0506.

4. Keller, P, & Bieger, T. (2010), *Tourism Development after the Crises*. Berlin: Erich Schmidt Verlag.
5. Kuo, H. I. et al. (2008), "Assessing Impacts of SARS and Avian Flu on International Tourism Demand to Asia," *Tourism Management*, 29, pp. 917-928.
6. Kuo, H. I. et al. (2009), "Estimation the Impact of Avian Flu on International Tourism Demand using Panel Data," *Tourism Economics*, 15, Vol. 3, pp. 501-511.
8. McAleer, M. et al. (2010), "An econometric analysis of SARS and Avian Flu on international tourist arrivals to Asia," *Environmental Modeling and Software*, Vol. 25, No. 1, pp. 100-106.
9. Page, S. et al. (2006), "A Case Study of Best Practice - Visit Scotland's Prepared Response to An Influenza Pandemic," *Tourism Management*, Vol. 27, No. 3, pp. 361-393.
11. WTTC (2002), *The Impact of Travel and Tourism on Jobs and the Economy – 2002: Extensive Summary*. s.l.: World Travel and Tourism Council.
12. <http://www.ers.usda.gov/Data/Macroeconomics/>