Rodrigo Valdés Ortiz
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Literature Review

Tourism is a primary source of revenue for many countries. For instance, in Mexico, South Africa and Italy, it represents more than 8% of the GDP. There is a general intuition that crime and its perception can affect choices regarding touristic destinations. Although there is not a comprehensive study which relates both concepts. I classify literature regarding this topic in two broad categories. On the one hand, papers which use crime and tourism data, both from aggregate and individual level. On the second hand, studies which try to understand the perception of crime and its effects on tourism.

Regarding the first category, there is research focus on aggregate measures of tourism. Many of these articles study the determinants of visitors' arrivals without considering the crime. Lim (1997) identified that many of these models concentrate in demand for international travel services which depends on per capita income of the country of origin, a factor of difference in relative prices, the exchange rate, the round-trip travel cost, and qualitative factors in the country of origin. Those factors have been life expectancy, literacy, good information (Vietze, 2011); supply-side explanations, like nature or infrastructure (Zhang & Jense, 2007); transportation and communication (Phakdisoth & Kim, 2007); and political risk (Eilaf & Einav, 2004). Moreover, there is other studies wich focus in time series analysis, using autoregressive models and vector error correction models (Lim & McAleer, 2001; Bonham et. al., 2009).

In the same family of papers, there are "gravity models;" wich states that international tourism flows are positively correlated with the size of its economies, and negatively correlated with the distance between them. An example of this model is Vietze (2012), who analyzed the touristic flows to the USA from 208 countries. He found that, as expected, GDP growth in the country of origin is correlated with more visits towards the USA, while the distance from the capital of the country of origin to the capital of the USA is negatively correlated. Furthermore, he explains that others factors positively associated with visits towards the USA are characteristics of the country of origin, such as English speaking country, strong institutions, Christian, and non-Muslim. Meanwhile, the cost of living of the destination country is negatively correlated.

Also, there are other articles with study crime and tourism. Duha, Tore & Altindag (2009) examine the effect of crime in international tourism with a panel data for European countries. They used a fixed effects model which depend variable is foreign tourists or revenue, and the independent variables are lagged crime (one year), and control variables like unemployment, GDP growth rate, exchange rate, urbanization rate, among others. They found that violent crimes are negatively associated with incoming international travels and touristic revenue. However, this effect was smaller in highly traditional touristic places, such as the southern European countries.

In addition, there are studies for developing countries which link crime and tourism. Chiquiar, Herrera, and Lopez (2012) studied the determinants of international tourism towards Mexico from 2000 to 2012 through a fixed effects model. The dependent variables are touristic arrivals and average expenditure, while the independent variables are insecurity, business cycle (origin

and destination country), fluctuations in the real exchange rate, 2009 flu outbreak, and other controls.[1] They conclude that insecurity index has a significant adverse effect on non-border touristic arrivals and border and non-border average expenditure by tourists. The data from the models imply that insecurity caused a decrease of 6.33% in average international visitors from 2008 to 2012.

In contrast, another set of articles focuses on the opposite effect. That is to say, on the impact of tourism on crime. The intuition behind this is that touristic places suffer higher crime rates due to more naive people in the city, which is a favorable environment for crime. For instance, Biagi, Brandano, and Detotto (2012) explain that for a subsample of Italian cities, touristic places tend to have a greater amount of crime that non-touristic ones. However, after some controls, tourism does not have explanatory power but agglomeration and urbanization. Then, tourism does not cause crime but confounding factors. In the same vein, Baker and Stockfon (2014) studied the relationship between the number of tourism and crime in Honolulu and Las Vegas. They found that in the first city there is an inverse relationship between the number of visitors and violent crime, while in the latter there is a positive correlation between the number of visitors and crime.

Concerning the second family of papers, a few articles investigate the effect of perception of crime in international tourist travel decisions. George (2012) made a survey of 398 attendants to the 2010 FIFA World Cup in South Africa. His analysis is primarily descriptive. He found that the perception of safety depends on the origin of tourist. For example, people from the middle

[1] During March and April of that year was an outbreak of a new influenza virus, which paralyzed economic and touristic activities for some days due to uncertainty about its consequences.

east and Asia fell the safest, while people from South America and Western Europe fell the least safe in South Africa. However, according to the survey, the perception of crime does not affect future travel decisions to the country.

Another example which primary source is a survey. Sönmez & Graefe (1998) analyzed data from 240 surveys filled out by individuals who expressed interest in travelling internationally or has travelled abroad. They build a risk perception level from the amount and types of risk perceived by the respondents by country. The report that 88% of the respondents consider that tourist must avoid politically unstable countries. Through econometric techniques, they found that attitude towards risks, risk perception, and income affect decision making. Moreover, risk perception level decreases with higher travel experience. Their results, as they recognize, are biased to a very particular subset of a population, namely, older and well-educated American males (70%) who has travel experience or at least want to go abroad. Sönmez & Graefe says that it is unclear if watch terrorist events in the news change vacation decisions. They hypothesize that media sensationalism can discourage people from travelling, and that perceived risk may overcome reality. However, the "links between real and perceived risk and their influences on decisions need illumination" (137).

This paper will link these two broad pieces of literature, the one about decisions about travel destinations, and the one regarding the perception of crime. My analysis will build variables for the perception of risk from social media and newspapers, and I will link it with objective risk indicators. I leave the complete discussion of the methodology for the next section.

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