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Tourism and Crime in European Nations

The goal of this study is to examine the effects of tourism on the rate of crime against persons while controlling for the degree of urbanization, the rate of unemployment, and the region of nations in Europe. Hierarchical multiple regression analyses were conducted using data from 46 European nations for the years 2000 to 2004. An increase in rates of foreign tourist arrivals predicts a decrease in rates of crimes against persons committed by males or females. This finding is consistent with previous reports (Messner and Rosenfield, 2001; Levantis and Gani, 2000; Tran, Philipp, and Bridges, 2008). Lower rates of crimes against persons and higher rates of crimes against property might be the products of tourism.

Key words: Tourism, Crime

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Introduction

Some researchers have discussed the relationship between tourism and crime

(Levantis & Gani, 2000; Pizam, 1982); however, their findings have not been consistent. Jud

(1975), and Lin and Loeb (1977) investigated the effects of tourism on crime against property

in 32 states in Mexico using the following model:

$$Ci = a + b\ Ti + c\ URi + Ui \ (Jud: 1975: 325)$$

where Ci is the number of offenses committed per capita in state$_i$, i.e., the rate of

crime; Ti is the number of arriving foreign tourists per capita in state$_i$, i.e., the rate of foreign

tourist arrivals; URi is the fractions of people living in cities in state$_i$, i.e., the degree of

urbanization in state$_i$; and Ui is the disturbance term in state$_i$. Jud (1975) reported that select

crimes against property, i.e., fraud, larcency, and robbery were significantly predicted by the

rate of foreign tourist arrivals, but there were not any significant causal relationships between

the rate of property crimes and the degree of urbanization. However, when Lin and Loeb

(1977) excluded the non-border states of these Mexico's 32 states in the model using a

dummy variable, they reported there was a significant causal relationship between the rate of

property crimes and the degree of urbanization, but there was no causal relationship between

the rate of property crimes and the rate of tourist arrivals. Lin and Loeb (1977) posited, "The

degree of urbanization was found to have a significant positive effect (at the .05 significance

level) on two criminal activities, namely, fraud and robbery…Our regression results do not

substantiate at this time the fact that tourism is a significant contributor to crime." (p. 166).

The main reason leading to different results was the selected sample; Jud used both border

and non-border states in Mexico, whereas Lin and Loeb used only non-border states in

Mexico. Crotts (2003) reported tourists are victims of criminal behavior against property

because they create more opportunities for these unlawful acts. Recent research has reported

that an increase in rates of tourist arrivals results in an increase in rates of property crimes

(Agarwal & Brunt, 2006; Barclay & Mawby, 2006). However, little research has considered the effects of foreign tourist arrivals on criminal activities against persons, i.e., homicides or murders. The purpose of the present study is to determine if rates of tourist arrivals are associated with rates of crime against persons in 46 European nations.

Literature

Jud (1975) studied the economic models of criminal behavior of Becker and Landes (1974) and Ehrlich (1973). The main assumption underlying their models was that illegitimate activity responds directly to economic incentives. Jud (1975) reported that amount of criminal activity against foreign tourists increases as the number of illegal opportunities increase. Said another way, more foreign tourists arriving result in more opportunities for crime against property. However, Lin and Loeb (1977) asserted that there might be no positive relationship between tourists and criminal activities. An increase in rates of tourist arrivals leads to increase in the degree of urbanization. As a result, criminal activities increase (p. 164). The latter is supported by previous research (Clinard and Abbott, 1973; Ehrlich, 1974). It is thus important to clarify the relationship between tourism and crime.

Bernasco and Luykx (2003) reported that three factors: attractiveness, opportunity and accessibility, pull crimes against property. Another explanation for the associations between tourism and property crimes against persons may be found in the theory of social disorganization from Shaw and McKay (1942). This theory implies that "criminal behavior is not caused at the individual level, but is a normal response by normal individuals to abnormal social conditions" (p. 142). Therefore, if a community is not self-protected and imperfectly policed by outside agencies, some individuals will express their dispositions and desires toward criminal behavior. Shaw and McKay (1942) posited that a weak organizational structure within a community may create an environment more conducive to the

manifestation of criminal behaviors against people and vice versa. Cohen and Felson's (1979) study showed that there must be three conditions for an illegal activity: 1) motivated offenders, 2) suitable targets, and 3) absence of capable guardians in a community. According to Cohen and Felson, if the three conditions are not met, crimes against property and persons will not happen. As a result, more police will decrease criminal activities against persons. Consequently, an increase in rates of tourist arrivals may provide a more secure environment due to an increase in the number of security in the community, resulting in a decrease of the rate of crime against persons. Levantis and Gani (2000) reported that if a country suffers an increase in order problems, the demand for tourism to that country will be decreased. Thus, different crime rates in different European nations could be partly due to differences in the presence of police in these countries. European nations are different in terms of age of their countries and political structures in the past so the present study has assumed regional differences rather than just country-level differences. According to the World Health Organization Regional Office for Europe, Copenhagen, Denmark (2008)[1] there are four main regions in Europe: North, West, Central/East, and Southern/Mediterranean. In order to examine the relationship between the rate of tourist arrivals and the rate of crime against persons, these regions of the nations in Europe were controlled in the present study.

Several researchers reported that higher levels of ethnic heterogeneity and urbanization will affect a community's level of social disorganization (Bursik, 1988; Crutchfield, Geerken, & Gove, 1982; Kornhauser, 1978; Messner & Golden, 1992). When a community is socially disorganized due to high degrees of urbanization, it will have less of an ability to engage in both the social control and the appropriate socialization of its residents, resulting in an increase in rates of crimes (Sampson and Groves, 1989). Wilson (1987) also reported that the ability to sustain social control of a community can effectively reduce criminal behaviors. Cities with larger varieties of specific populations should have less ability

to maintain effective social control and thus, experience higher rates of crimes. Therefore, degrees of urbanization which might affect rates of crimes against persons were controlled in the present study.

Messner and Rosenfield (2001) reported that some societies are more regulated by specific social institutions and thus have lower crime rates against persons than societies not as regulated by those institutions. These institutions might be tourism organizations or travel agencies because they can provide more opportunities for employment and reinforce police to protect tourists (Ap and Crompton, 1998; Gee et al., 1997). Foreign tourist arrivals in a country might modify or change the local, regional, or national social and cultural values, traditions, and customs (Tran et al., 2008) and make local people pay attention to social interests instead of their self interests. Konty (2005) posits that "self interest becomes criminogenic only in the absence of social interests that prevent the pursuit of self-interested goals 'by any means necessary'." (p. 111). Therefore, tourist arrivals might affect not only the rate of crime but also the rate of unemployment. In order to examine only the relationship between rates of crime and rates of tourist arrivals, the rate of unemployment was controlled in the study.

All the above studies are about tourism associated with crime against property. Contemporary research is lacking reports regarding tourism associated with crime against persons. Therefore, the present study examined the relationship between tourism and crime against persons.

Method

Forty-six European nations[2] were chosen as the sample. Tourism in Europe has existed for centuries and the nations of Europe are associated with considerable cultural diversity. Rates of crimes against persons (rates of homicides committed by males and females), rates of foreign tourist arrivals, rates of unemployment, and degrees of urbanization

were selected for the years 2000 to 2004 and their average values are illustrated in table 1.

The missing data were replaced by the average of the available data within the five years

(Table 1).

TABLE 1: Five-Year Average Rates of Male and Female Crimes, Unemployment, Tourist Arrivals and

Urbanization.

Country	Five-year Average Rate				
	Tourist Arrivals	Unemployment	Male Homicide	Female Homicide	Urbanization
Albania	150.11	15.68	11.22	1.76	43.4
Armenia	52.55	9.98	3.96	0.97	92.29
Austria	2279.79	6.58	0.73	0.91	66.06
Azerbaijan	112.74	1.32	4.93	1.14	66.88
Belarus	6.35	2.48	15.14	6.36	51.5
Belgium	642.92	11.24	1.65	1.65	70.27
Bulgaria	730.68	15.44	4.52	1.25	97.43
Croatia	1534.25	20.52	2.48	1.22	43.89
Cyprus	3091.23	4.22	2	0.94	68.43
Czech Republic	501.3	8.06	1.69	0.9	57.94
Denmark	651.26	5.68	1.2	0.9	69.47
Estonia	826.07	11.24	20.46	4.32	74.38
Finland	389.89	9.16	3.46	1.44	85.18
France	1268.01	9.38	0.97	0.61	69.46
Georgia	72.35	11.6	6.37	1.07	59.81
Germany	226.36	7.9	0.77	0.62	75.89
Greece	1254.4	10	1.35	0.47	54.84
Hungary	300.97	6.48	2.87	1.63	85.25
Iceland	1077.66	2.88	1.64	0.79	60.2
Ireland	1690.35	4.24	1.41	0.35	64.99
Israel	223.9	9.9	6.06	2.17	92.63
Italy	679.36	8.86	1.47	0.44	59.62
Kazakhstan	207.99	9.5	28.29	7.97	91.73
Kyrgyzstan	75.44	3	13.26	4.93	67.17
Latvia	163.4	8.16	16.55	6.15	56.13
Lithuania	119.8	10.44	14.12	4.46	34.5
Luxembourg	1942.39	3.26	1.52	1.27	62.99
Malta	2947.96	5.04	1.11	1.36	67.92
Netherlands	595.51	3.68	1.58	0.77	89.48
Norway	710.22	3.98	1.12	0.78	92.13
Poland	87.02	17.84	2.56	0.91	100
Portugal	1145.05	5.24	1.85	0.69	53
Republic of Moldova	5.2	1.96	15.44	6.2	87.17
Romania	248.13	8.52	5.15	1.95	76.12
Russian Federation	151.49	8.48	47.18	12.67	62.35
Serbia and Montenegro	42.04	26.62	1.59	1.59	63.76
Slovakia	239.51	16.09	2.9	1.2	43.54
Slovenia	651.12	11.44	1.55	0.91	54.88
Spain	1223.48	11.7	1.49	0.57	73.04
Sweden	837.82	4.62	1.32	0.72	90.33
Switzerland	981.09	2.72	0.89	0.89	67.6
Tajikistan	1.04	57.28	7.63	2.15	57.28
The fYR of Macedonia	76.12	33.7	6.69	1.29	49.82
Turkey	180.04	9.2	3.83	3.83	77.28
Ukraine	200.67	8.96	17.28	6.19	83.4
United Kingdom	419.74	4.96	0.72	0.27	69.06

Regions of European nations including border and non-border nations in Europe were coded from 1 to 4 as follows: North = 1, West = 2, Central/East = 3, Southern/Mediterranean = 4. The rate of unemployment is calculated as the number of unemployed persons in the host country divided by the population size for the years 2000 to 2004. The degree of urbanization is measured by fractions of persons living in cities for the years 2000 to 2004. Both the rate of unemployment and the degree of urbanization were selected from the United Nations Statistics Division (2008)[3]. The rate of crime against persons is the number of homicides per 100,000 population of residents. The rate of male crimes is the number of homicides per 100,000 resident population committed by males and the rate of female crimes is the number of homicides per 100,000 resident population committed by females. The present study selected the rates of male and female crimes against persons from European health for all database, World Health Organization Regional Office for Europe, Copenhagen, Denmark (2008)[1]. For the purposes of the present study, the term 'crimes against persons' or homicide is defined as murder, "Any act performed with the purpose of taking human life in whatever circumstances. This definition excludes abortion but includes infanticide" (Rushton, 1995, p. 308). The rate of foreign tourist arrivals including a number of international tourist arrivals per 1000 resident population were selected from the United Nations World Tourism Organization (2008)[4]. Hierarchical multiple regression analyses were conducted to examine the causal relationship between rates of tourist arrivals and rates of crime against persons when controlling for degrees of urbanization, regions of nations, and rates of unemployment. In order to normalize the distributions for these variables, the natural logarithmic was used to transform the skewed values of the dependent variable and independent variables (Nunnally and Bernstein, 1994). The five skewed variables to be transformed into natural logarithm are the rates of male and female crimes against persons, the rate of tourist arrivals, the rate of unemployment, and the code of nation regions.

Results

The significant difference of gender in crimes has long been recognized (Sporer and Salfati, 2006); thus, analyses were conducted for combined crime rates as well as rates separated by gender. Rates of crimes against persons committed by males and females over a five-year period from 2000 to 2004 in 46 European nations were significantly negatively associated with rates of tourist arrivals (rs = -.58 and -44, respectively, ps < .01 and .01, respectively) when controlling for degrees of urbanization, regions, and rates of unemployment. For the model with crimes against persons committed by males as the dependent variable, the degree of urbanization was added in the first step of multiple regression analyses. This model was not statistically significant, $F (1, 41) = .09$, $p > .05$, and R^2 change = .02. The rate of unemployment was entered in the second step. Addition of this predictor did not increase the fit of the model to the data, $F (1, 40) = .48$, $p > .05$, and R^2 change = .01. The region code was entered in the third step. Addition of this predictor significantly increased the fit of the model to the data, $F (1, 39) = 6.06$, $p < .05$, and R^2 change = .13. The last predictor added to the model was the rate of tourist arrivals. Addition of this predictor significantly increased the fit of the model to the data, $F (1, 38) = 19.98$, $p < .01$, and R^2 change = .29. As shown in Table 2, the rate of foreign tourist arrivals had significant effects on the rate of male crime ($ß = -.57$, $p < .001$).

TABLE 2: Regression Analysis Investigating Hierarchy Effects: Male Crime Rates as Dependent Variable

Step and source	Cumulative R^2	ΔR^2	$ß$
1. Urbanization	.002	.002	.034
2. Unemployment	.014	.012	.115
3. Region	.147*	.133*	.225*
4. Tourist arrivals	.441**	.294**	-.571**

*p < .05
**p<.01

As a result, rates of crimes against persons committed by males were associated with rates of foreign tourist arrivals. The analysis was similar to the model with crimes against persons committed by females as the dependent variable. In the first step of hierarchical multiple regression analyses for the model with female crime as the dependent variable, the degree of urbanization was added. This model was not statistically significant, $F(1, 41) = .01$, $p > .05$, and R^2 change = .00. The rate of unemployment was entered in the second step. Addition of this predictor did not increase the fit of the model to the data, $F(1, 40) = 0.95$, $p > .05$, and R^2 change = .00. The region code was entered in the third step. Addition of this predictor significantly increased the fit of the model to the data, $F(1, 39) = 5.85$, $p < .05$, and R^2 change = .13. The last predictor added to the model was the rate of tourist arrivals. Addition of this predictor significantly increased the fit of the model to the data, $F(1, 38) = 9.53$, $p < .01$, and R^2 change = .17. As shown in table 3, the rate of foreign tourist arrivals had significant effects on the rate of female crime ($\beta = -4.39$, $p < .001$). As a result, rates of female crime against persons were associated with rates of foreign tourist arrivals. The findings suggest that increasing tourist arrivals that increases the rate of crimes against property is associated with a decrease in the rate of crimes against persons.

TABLE 3: Regression Analysis Investigating Hierarchy Effects: Female Crime Rates as Dependent Variable

Step and source	Cumulative R^2	ΔR^2	β
1. Urbanization	.000	.000	.056
2. Unemployment	.003	.002	-.074
3. Region	.133*	.130*	.262*
4. Tourist arrivals	.307**	.174**	-.439**

*$p < .05$
**$p < .01$

Conclusion

The assumption is that as the number of tourist arrivals increases in a particular country, certain crimes against persons are expected to decrease. As Messner and Rosenfield (2001) have pointed out, the more opportunities for tourists there are in a host country, the more security and the less opportunities for the criminal offenses against persons committed. From a policy standpoint, government officials, who support economic growth from tourism development that attracts increasing numbers of foreign tourists to the country, should understand that such development usually decreases opportunities for illegal activity such as crimes against persons or homicides. Thus, increased taxes to strengthen police protection in communities supporting economic development through tourism should not be imposed from tourism sources. In general, lesser crime rates against persons as well as higher security might be the product of tourism and economic development. .

Since tourism contributes to a decrease in crime against persons it is not reasonable that tourists should contribute to the costs of policing increased criminal activity against persons. If the policing costs imposed on tourists through 'tourist taxation' result in a significant drop in tourism revenues and a negative impact on the tourist industry, it might be better to finance increased police protection by a tax on profits contributed by the owners and stockholders of any other business in the community. This viewpoint is consistent with principles of Messner and Rosenfield's (2001) studies. In addition, the present study supports a tax expenditure policy for tourism development in which tourists are not responsible for local taxation in order to enjoy 'duty free' products and services at the tourist destinations. The present study has, however, four major limitations: 1) it is based on only four years of data, 2) it employs only European nations in the sample, 3) it is based upon the assumption that European nations are similar in social organizational structures, and 4) it reveals an association between tourism and crimes against persons when controlling for

degrees of urbanization, regions of nations, and rates of unemployment, but it does not

control for other factors such as political and social organizations. Future research should

expand cross-cultural comparisons between social norms, education, ethnicity, religion, and

family status among other countries in a longitudinal study.

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[2] Albania, Armenia, Austria, Azerbaijan, Belarus, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Luxembourg, Malta. Netherland, Norway, Poland, Portugal, Republic of Moldova, Romania, Russian, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Tajikistan, The former Yugoslav Republic of Macedonia, Turkey, Ukraine, and United Kingdom.

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