Determinants of International Tourism Flows into Mexico: Externalities of the Perception of Crime and Other Factors

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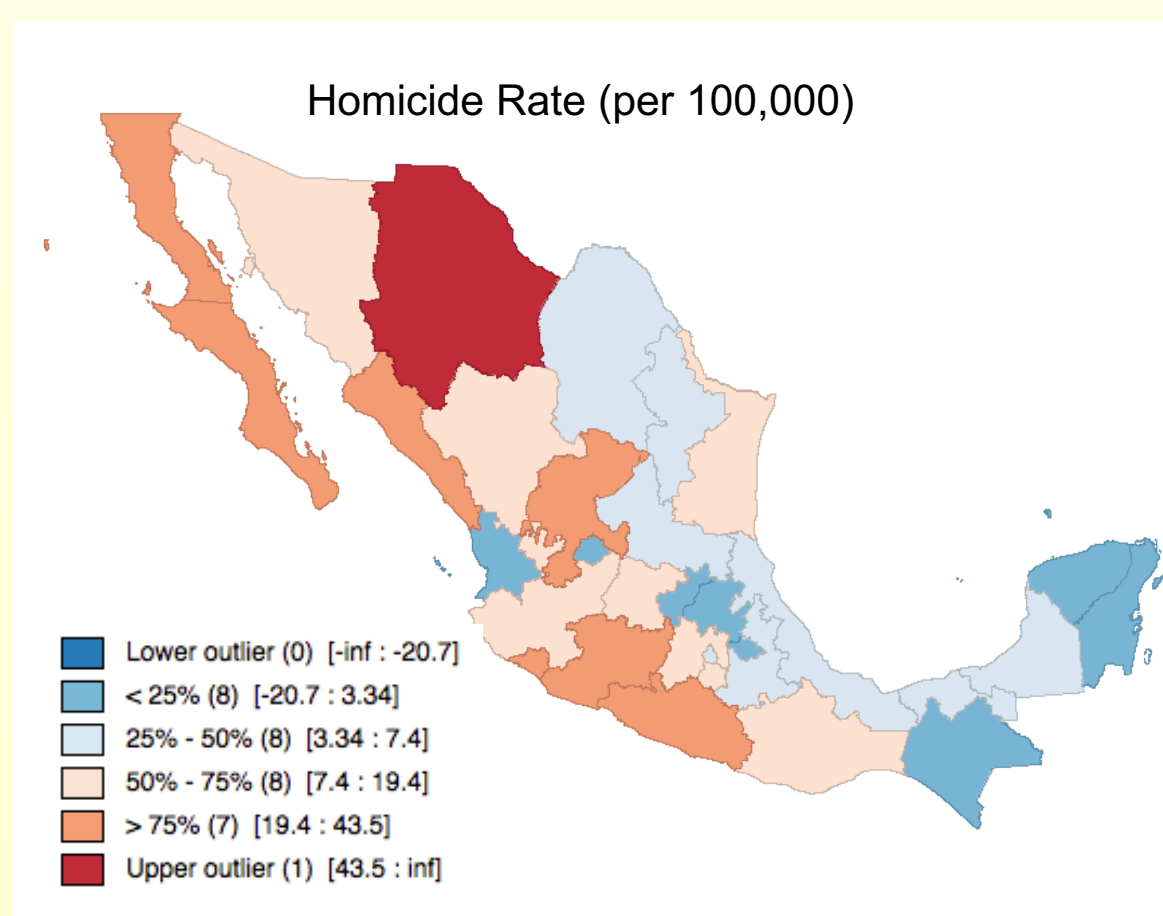rodrigovaldes@uchicago.edu

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Background

• After 2006, there was an increase in violence in Mexico mainly driven by conflicts among drug cartels. As a result, the perception of violence in the country increased as the crime augmented. However, the delinquency is not homogenous among the states (see below). There are places where violence is living on a daily basis, and regions where crime is not a big problem.

Objective

• This study analyzes the externalities of the general perception of violence in Mexico on the number of tourists to different regions of the country.

• Furthermore, I use others factors, such as real exchange rate, economic activity in Mexico and the USA, and the actual crime rate by Mexican state.

Homicide Rate by State (2016)

Homicide Rate (per 100,000)

Lower outlier (0) [-inf : -20.7]
< 25% (8) [-20.7 : 3.34]
25% - 50% (8) [3.34 : 7.4]
50% - 75% (8) [7.4 : 19.4]
> 75% (7) [19.4 : 43.5]
Upper outlier (1) [43.5 : inf]

Methods

$$T_{jt} = \beta_{0jt} + \beta_{1jt}(P_{t-3}) + \beta_{2jt}(C_{jt-3}) + \beta_{j3}(R_t) + \nabla_{jt}(E_t) + +\epsilon_{jt}$$

Where

T_{jt} = touristic data for place j in time t
P_{t-3} = index of general perception of crime at time t-3
C_{jt} = crime for place j in time $t-3$
R_t = real exchange rate in time t
E_t = vector of economic activity in Mexico and in the USA

Additionally, I included controls for serial autocorrelation (AR terms of order 1 and 12).

Data

T_{jt} = arrivals of international visitors without Mexican passport who identified themselves as tourists. I take into account all the persons who arrived to any international port of entry (land, sea, airport) by state. Furthermore, I used data for the most popular international airports as a dependent variable. Data were provided by the National Institute of Immigration (Mexico).

P_t = proportion of words related to violence, such as crime, delinquency, fatality, kill, murder, trafficker, among others in articles about Mexico. The reference number is the total number of words by month in articles published by the **New York Times** with at least two occurrences of Mexico or Mexican (or related words, like Mexicans). The sample is 5469 articles from 2007 to 2016.

C_{jt} = intentional homicides commited with firearms in state j in time t. For airports, I used the data of the state.

R_t = real exchange rate in time t provided by Bank of Mexico .

E_t = Economic Activity Index for the United States (Federal Reserve Bank of St. Louis) for the USA, and the General Index of Economic Activity (INEGI) for Mexico.

Note: all data is monthly basis.

The safest states are the most affected by the perception of crime


Perception of Crime vs Homicides
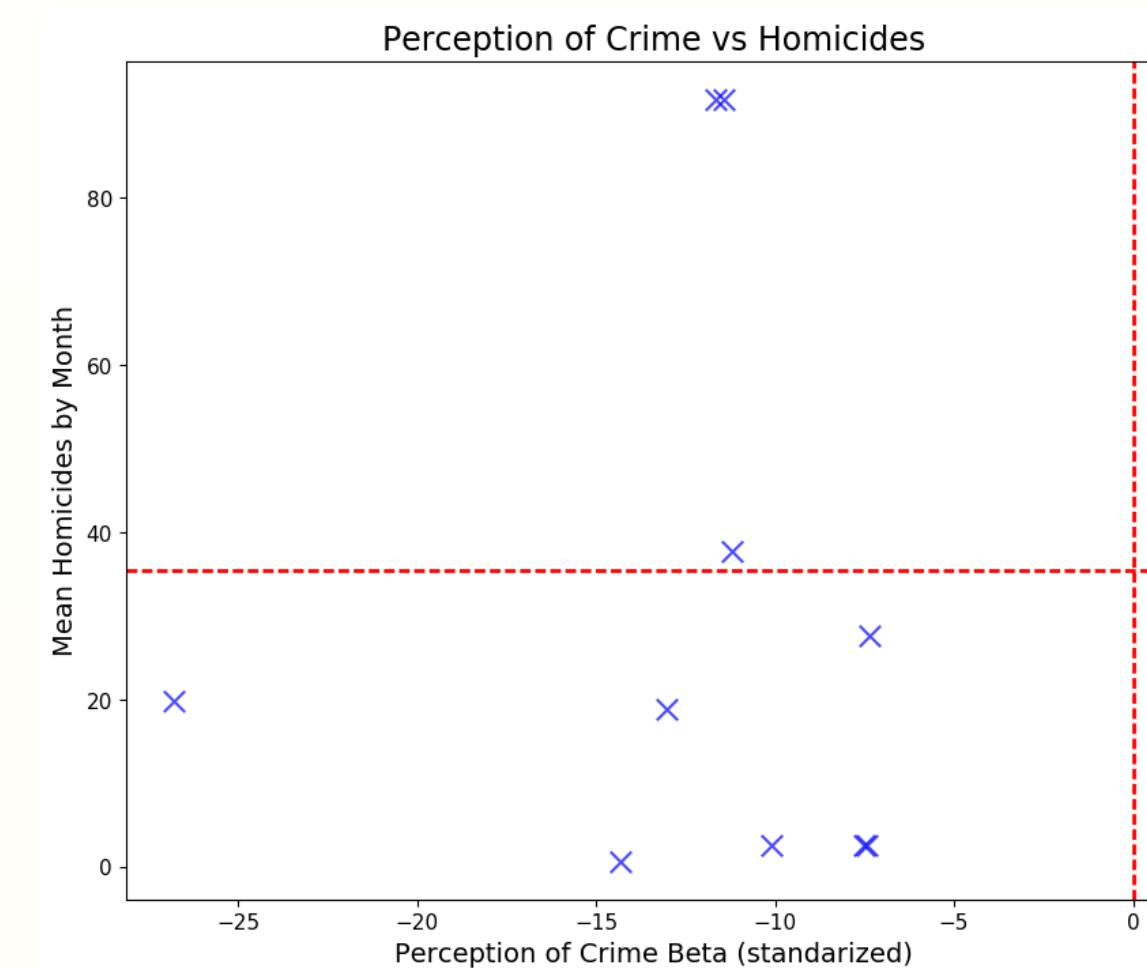
For all graphs, the beta is standardized by the mean tourists by month and state in the sample. I only show the significant coefficients of 32 regressions.

## Crime has a negative effect on tourism but its magnitude is smaller

Crime vs Homicides
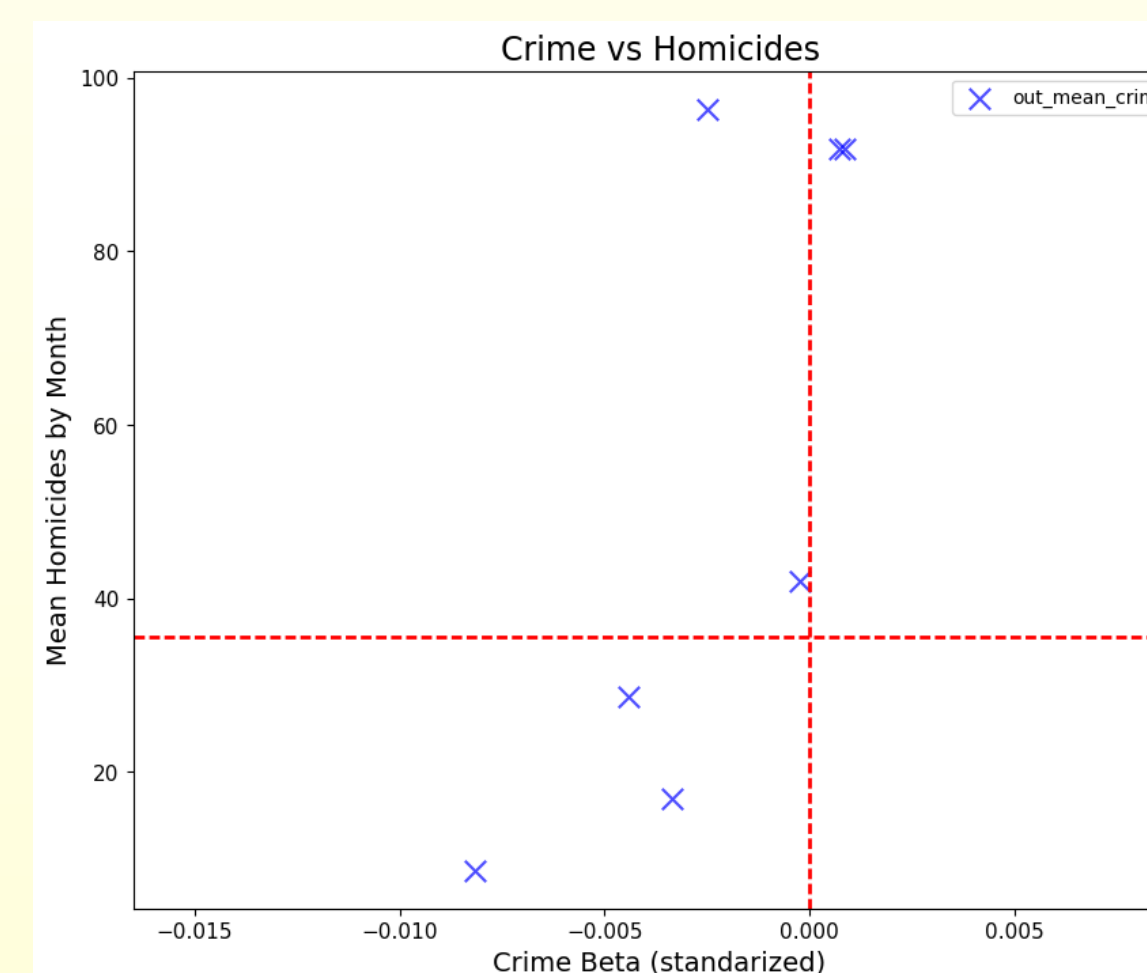
There is weak evidence that in states were violence has been normalized (high all the time), changes in crime does not affect tourist's decisions.

Exchange rate without an intuitive sign

Real Exchange Rate vs Mean Tourist by Month
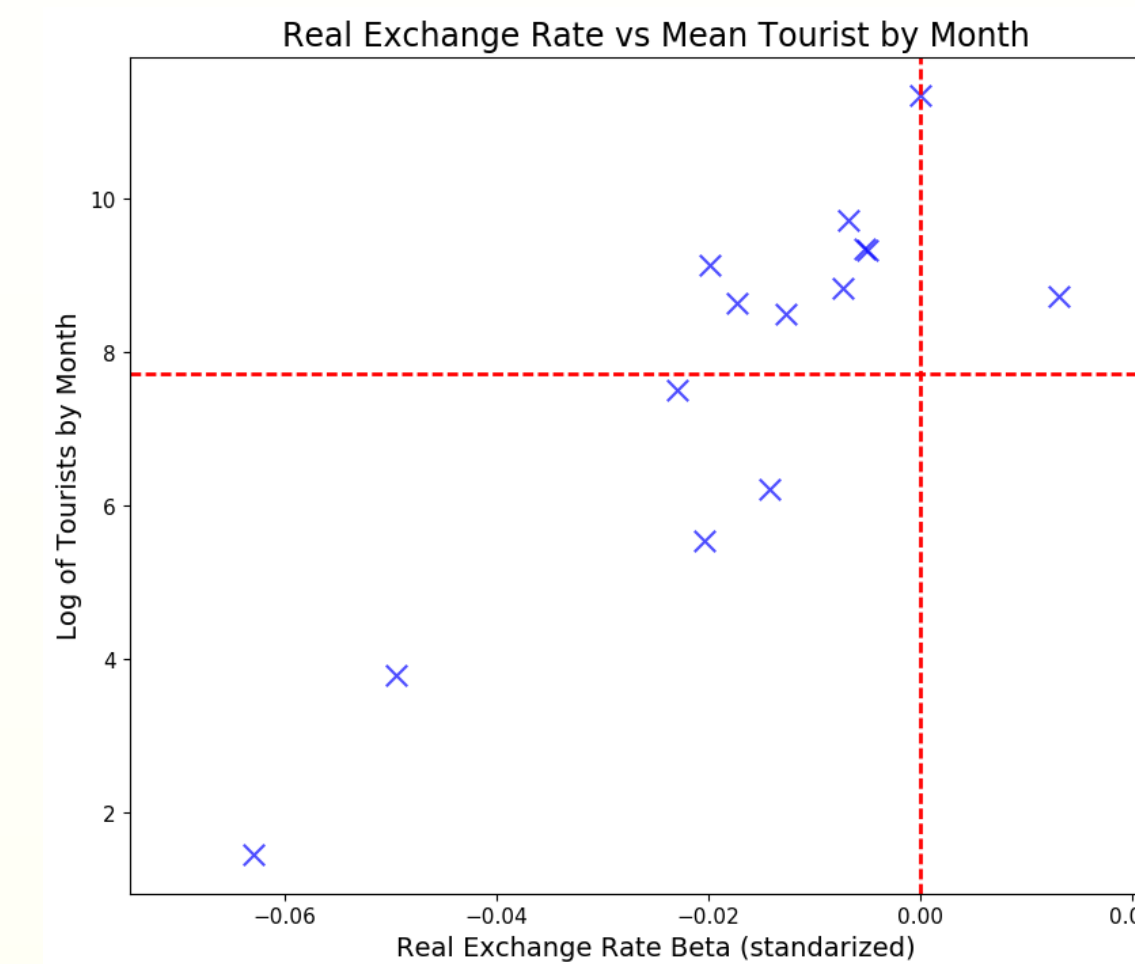
The real value of the Mexican Peso has a negative coefficient. It means that an increase in the value of the US dollar has not a positive effect to induce tourism to Mexico in most of the cases.

A stronger Mexican economy is related to more international tourism.

MXN Economy Beta vs Mean Tourist by Month
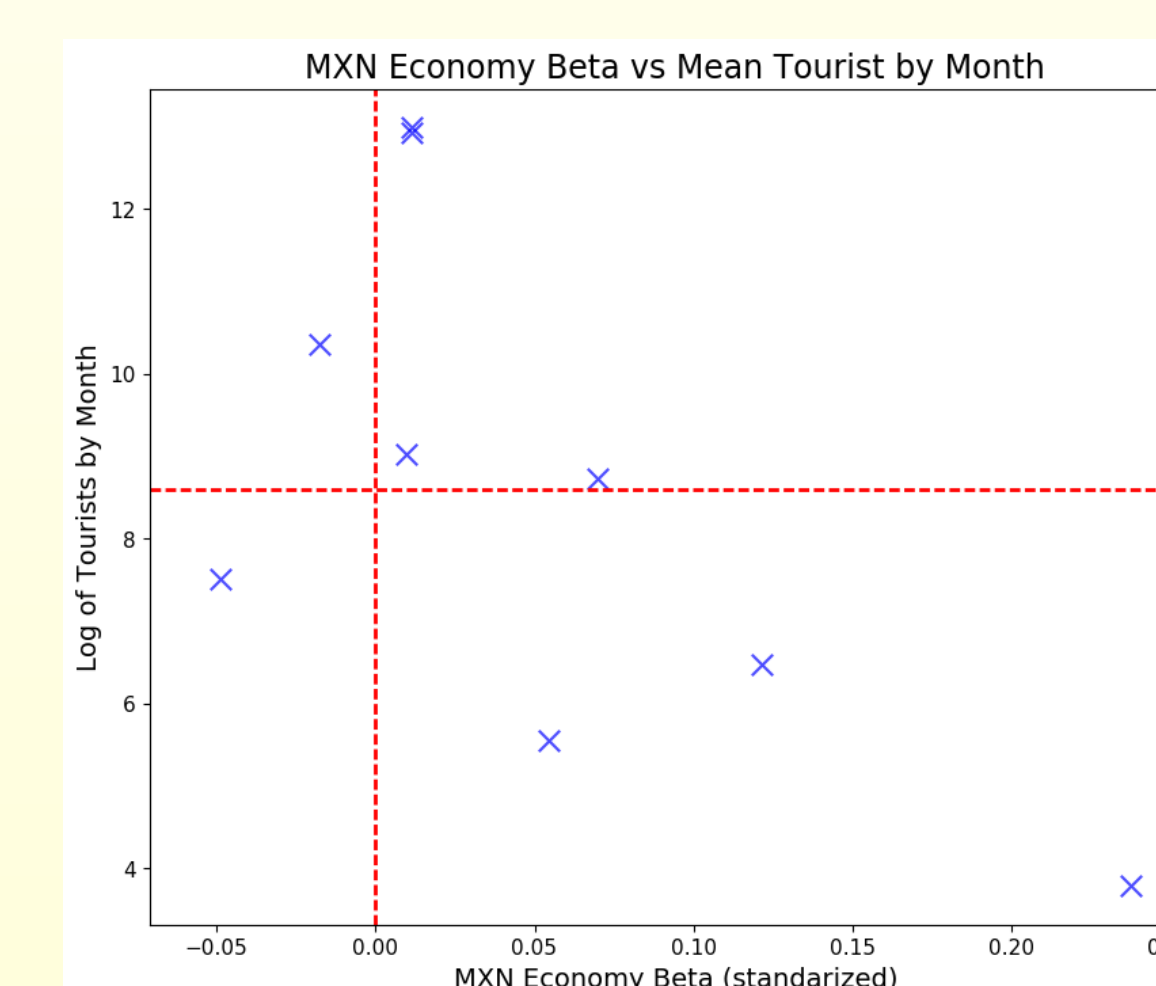
Most of the coefficients show a positive relationship between the Mexican economy and the number of tourist.

Substitution effect for the USA economy

USA Economy vs Mean Tourist by Month
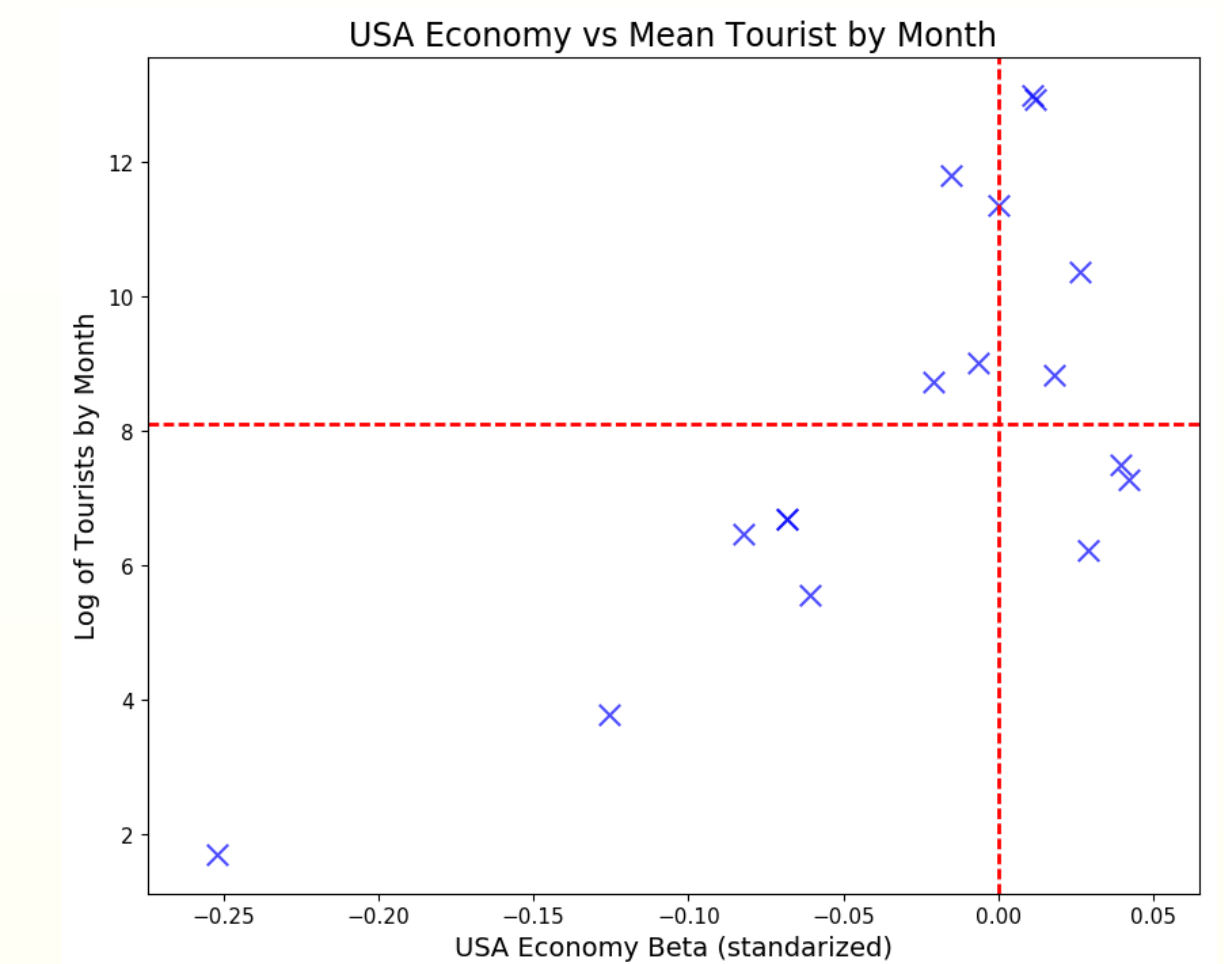
There are positive and negative coefficients. For some places, an stronger USA economy means more visits, while in others the relationship is the opposite.

Conclusion

The overall perception of crime in Mexico has a negative effect in the number of tourists to the safest places in Mexico.

Economic factors affect the decisions to travel to Mexico. The economy of the USA has positive and negative effects in the number of tourists to specific places in Mexico (substitution effect). The impact of the real exchange rate need to be further analyzed.

Limitations

The perception of crime depends on the New York Times, which might not depict the international perception of crime in Mexico. However, most of the international tourists are American.