

# The WAGER, Vol. 19(13) - How do casinos relate to drunken driving fatalities?

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Many different factors influence rates of drunken driving and alcohol-related fatalities. For example, these rates vary with environmental factors, such as the availability of bars and public transportation (Nelson & Tao, 2012). This week, as part of our [Special Series on Driving Under the Influence of Intoxicants](#), we review a study that examined how the availability of casinos varies with rates of alcohol-related fatalities (Cotti & Walker, 2010).

## Methods

- The authors analyzed casino opening records (from 1990-2000) and National Highway Traffic Safety Administration (NHTSA) Fatality Analysis Reporting System ([FARS](#)) records.
  - They identified 131 counties with casino openings and 1,437 counties without openings.
  - They examined counts of fatal car accidents (both alcohol-related and not alcohol-related) in counties with, and without, casino openings.
  - They also used [regression techniques](#) to examine the link between casino openings and annual numbers of drunken driving accidents (i.e., “Basic Specification” in Table 1). They controlled for local laws and regulations related to drunk driving, such as beer taxes, zero-tolerance policies for teen drivers, and reducing the legal intoxication limit, as well as other variables.
- The authors checked the robustness of their findings by analyzing the data in multiple ways, using multiple definitions for key factors, and testing alternative sampling strategies.

## Results

- The Basic Specification model revealed a strong positive relationship between the opening of a casino in a given country and drunken driving

fatalities (i.e., a 9.2% increase; Figure): counties with casino openings had higher fatality rates.

- Population was an important moderator of this relationship: rural and moderately populated counties were associated with increased likelihood of drunken driving fatalities, but urban counties were associated with decreased likelihood of drunken driving fatalities.
- Robustness checks determined that the relationship between the presence of a casino in a given country and drunken driving fatalities persisted despite numerous tests of its durability.

<i>Variable</i>	<i>Coefficient Estimates (standard errors)</i>
Casino	0.092 (0.041) *
Casino-Population interaction	-0.058 (0.023) *
County population†	0.488 (0.171) **
Non-alcohol fatal accidents†	0.148 (0.031) **
Presence of a zero-tolerance law	-0.052 (0.021) *
Reduction in legal intoxication limit	0.034 (0.044)
Beer tax (in \$)†	-0.087 (0.074)
County unemployment rate†	-0.085 (0.051)

Figure. Casino and Control Variable Effects on Drunken Driving Fatalities (adapted from Cotti & Walker, 2010). Note. \*=p<.05; \*\*=p<.01

† Indicates the variable was transformed (natural log). Click image to enlarge.

### **Limitations**

- The data represent a period nearly 15 years ago, and more recent fatality records could share a different relationship with casino presence, due to community adaptation to gambling availability (LaPlante & Shaffer, 2007).
- The study was not able to include independent confirmation that fatality

accidents in the data occurred after casino visits.

## **Conclusions**

As with many relationships, the one between casinos and alcohol-related fatalities is complicated. The relationship changes, quite definitively, depending on the location of the casino: urban casinos appeared to decrease drunk driving fatalities, and rural/suburban casinos appeared to increase the risk. The authors suggest that the increased risk apparent in rural and moderately populated counties might be due to greater distances between casinos and other locations. They also suggest that the decreased risk apparent in urban counties might be due to casinos providing an alternative to bars. More research is needed to verify these interpretations.

- Debi LaPlante

*What do you think? Please use the comment link below to provide feedback on this article.*

## **References**

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