

A look at public policies and motorcycle safety in the US

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One of the joys of riding a motorcycle is the freedom that comes with that form of travel. However the absence of physical barriers to protect riders puts motorcyclists at a higher risk of injury than other motorists. Motorcycle fatalities have been on the rise for many years, according to the National Highway Transportation Safety Administration. Hence a group of researchers from the University of Miami (UM) and Florida International University (FIU) conducted one of the first longitudinal analyses of the effect of public policies to reduce motorcycle injuries and fatalities.

The researchers believe this study to be the first to use rigorous econometric techniques, to analyze whether traffic and alcohol policies affect non-fatal as well as fatal motorcycle injuries. The findings offer evidence that certain state policies can effectively reduce the morbidity and mortality associated with motorcycle riding. The findings were published in a recent issue of the *Journal of Health Economics*.

According to the study, the most significant policy in reducing both fatal and non-fatal motorcycle injuries is the universal helmet laws. The findings indicate that about 489 lives could have been saved if universal helmet laws were in effect in all 48 states in 2005. The researchers also found that mandatory rider education programs can reduce non-fatal motorcycle injuries.

"We were not surprised by the consistently significant effect of universal helmet laws on motorcycle fatalities and injuries, but the large



magnitude was a bit unexpected," says Michael T. French, director of Health Economic Research Group (HERG), in the UM Department of Sociology and co-author of the study. "In addition, the fact that universal helmet laws dominated all other traffic safety policies further highlights the importance of wearing a helmet to minimize the physical consequences associated with a crash."

On the other hand, two of the policies (speed limits on rural interstates and administrative license revocation) worked in the opposite direction from what was expected in the models for the non-fatal injury rate. Having an administrative license revocation policy was associated with higher rates of non-fatal injuries, while having a higher speed limit was associated with lower rates of non-fatal injuries.

"One possible explanation for these results is that states with these policies have more dangerous road conditions, so that a fatal rather than non-fatal injury is more likely to occur in the event of a crash," says Jenny Homer, senior research associate at HERG, in the UM Department of Sociology. In addition, rural states, which have less traffic congestion, may be more likely to have higher speed limits.

To obtain their results, the researchers first compiled an extensive dataset with fatal and non-fatal motorcycle injuries, state alcohol and traffic policies, and state demographic and environmental characteristics for the period from 1990 to 2005.

The data on fatal injuries were obtained from the National Highway Traffic Safety Administration's Fatality Analysis Reporting System, while non-fatal injury data were collected through personal correspondence with state traffic agencies. The information was analyzed to estimate the effects of the alcohol and traffic policies on fatal and non-fatal injuries. All of the models included state and year fixed effects to account for unobserved characteristics associated with a



specific state or year.

"As a result of data limitations, we are not able to account for certain characteristics that vary from state to state, such as policy enforcement and grass-roots efforts by advocacy groups. Nevertheless, the study contains valid information that can significantly impact public policy regarding motorcycle safety," says Gulcin Gumus, assistant professor in the Department of Health Policy and Management, and the Department of Economics at FIU and co-author of the study.

The next stage of the investigation will involve understanding how the universal helmet policies reduce fatalities, and whether their effects change over time.

Source: University of Miami (<u>news</u> : <u>web</u>)

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