Determinants of Traffic Fatalities in Taiwan

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Abstract

Fatalities are the most costly item of road accidents, particularly due to the loss of potential human output. This paper is based on a modified Peltzman model from 1975 and it estimates coefficients of legal variables (alcohol law and helmet law, both defined as the highest monetary fine for violating the respective law in real terms) and socioeconomic variables (real disposable income per capital, real price of alcohol, real price of fuel, unemployment rate, number of vehicles, and secular trend) against monthly numbers of fatalities in 1991-2012 time period by using time series OLS multiple regression analysis. The result reveals that helmet law together with unemployment rate and secular trend have a significantly reducing effect whereas real disposable income and number of vehicles have a significantly increasing effect on fatalities. Particular emphasis was laid on explaining the reducing impact of helmet law. Implications and suggestions are also addressed.

Keywords: Traffic fatalities, Taiwan, legal variables, socioeconomic variables, helmets