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## Estimation of the automobile accident probability by the logit model: Case of CRASH Algeria

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### Keywords

Insurance, Nonlinear Model Logit, probability of accident

### Abstract

In Algeria, the insurance industry generates more than 76.5 billion Algerian dinars as revenue in 2009, an increase of 12% over the prior year. The share of the property and casualty insurance category is 92.7%, in the percentage car insurance is a very important partner. Our study focuses on the auto insurance category with an objective to estimate the probability of an accident  $P(X_1, X_2, \dots, X_n)$  by a logit model. Assuming that the observations are independent and identically distributed (iid). The likelihood of the model is written like the probabilities associated with  $y_i$  achievements. We  $N_1$  and  $N_0$  respectively all observations for which  $\{y_i=1\}$  and  $\{y_i=0\}$ . For  $N$  observations such as:  $N = N_1 + N_0$ . This probability is expressed in terms of  $(X_i, i=1, 2, \dots, n)$  or  $X = (X_i) (i=1, 2, \dots, n)$ , represent individual characteristics (sex, experience conduct, residence, the Age of the Individual, the Age of the vehicle, the vehicle's power, .... etc). For this we have a random sample of 7826 CASH including insured and 6 variables.

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