ABSTRACT

Theme: “Model for evaluating insurance case based on Tweedie distribution”.

Thesis explanatory note: 100 p., 12tables, 17fig., 3 add and 15 references.

GENERALISED LINEAR MODEL, TWEEDIE DISTRIBUTION, MAPE, ITERATIVE WEIGTHED LEAST SQUARES, EXPONENTIAL DISPERTION FAMILY, GENERALISED ESTIMATION EQUATION.

Actuality: for today insurance activity in Ukraine is gaining in popularity in comparison with last years. This is largely due to the policy implemented by the state with regard to the introduction of compulsory motor insurance and voluntary medical care. Creating models for evaluating insurance case will allow insurance companies to assess the extent of possible insurance claims that have occurred but have not yet been reported. This, in turn, will allow you to evaluate the value of the insurance tariff in the future and deduce the business of insurance in profit.

The purpose of this work is to create models for assessing insurance cases using methods of generalized linear models and generalized estimation equations based onTweedie distribution in non-life insurance.

The object of research is a set of insurance data for the payment of insurance claims for a year in non-life insurance.

Methods of research: method of generalized linear models, method of generalized estimation equations. The software implementation is implemented using programming language R in the development environment of RStudio. Assessing of the quality of the obtained model was carried out using the MAPE criterion.

The results: the model of assessing insurance cases by the methods of generalized linear models and generalized estimation equations based on Tweedie distribution with using iteratively weighted least squares algorithm was developed.