Starting from the fundamental role of insurance, that of providing protection by the insurer to the person interested in concluding an insurance contract (the insured) in exchange for the insurance premium (insurance price), advanced mathematical models have been developed for the appropriate determination of the insurance price. In Romania, RCA insurance is one of the most regulated insurances due to the importance it occupies from the point of view of the volume of gross premiums subscribed. In the total of gross premiums written in Romania, both general and life insurance, RCA insurance holds on average in the period 2014-2022 approximately 47.5%, hence the motivation for this research topic in order to establish the most appropriate premium for the insured RCA portfolio. In the case of non-life insurance, the estimation of the pure insurance premium is carried out with the help of generalized linear models (GLM). The segmentation of the insured portfolio into homogeneous risk classes is more than necessary for choosing the optimal explanatory variables, which reproduce the behavior of the response variable as accurately as possible.

Keywords: insurance, generalized linear model, distribution
JEL classification: G22, G52, I13, J65
UDC: 330.4:364