Simulation approach of estimating bankruptcy probability in insurance planning

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When the insurance company develops a new insurance product, in many cases it is impossible or almost impossible to use old financial portfolios. In such cases simulation modeling is applied. Our simulation model uses discrete probabilistic model, which considers such characteristics of new portfolio, as: the probability of demand on the new insurance product, number of policies within portfolio, the portfolio time period, income from selling policies from portfolio, the investment costs of registering the product. We consider the case when the demand on policies has binomial distribution and cost of policies has normal distribution. For real values of these parameters we have developed Monte-Carlo simulation approach for evaluation of bankruptcy probability of the insurance product. The software is also developed as a support system for insurance manager. The user can: 1. interactively vary the groups of parameters until the required level of bankruptcy probability achieved, 2. Develop insurance product evaluation scenarios for final decision making.