

Title: Annuity modelling in MTPL  
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Abstract: This diploma thesis focuses on the possibilities of using generational mortality tables for third party liability insurance, mainly for bodily injured. It describes the construction of generational mortality tables and the creation of RBNS claims reserves. Besides the demonstration of these models, the work analyzes the results of calculating reserves in accordance with generational mortality tables and actual mortality tables of the Czech Republic. An important element in provision calculating is the simulation of future life expectancy of the insured, i.e. random generation of life expectancy based on generational mortality data. Characteristics of the distribution of reserves are derived from simulations. Furthermore, we compare the results of stochastic and deterministic approach of computing the reserves.

Keywords: third party liability insurance, RBNS, annuity, generational mortality tables.