

This thesis deals with the topic of mortality modelling and life insurance pricing. First, basic concepts from the demographic model and life tables are introduced. Following is a description of the Lee–Carter model including three methods for estimating of parameters and predicting of future values. The thesis also analyses the Renshaw–Haberman model and the method, which uses compositional data analysis including the non-parametric bootstrap for interval estimations. Besides the theoretical part the thesis also contains a practical one, where Czech mortality data are modeled separately for men and women. Based on the data from 1970-2021 we select the best model, predict future values for 30 years ahead and price the life insurance in 2021 and in the following years.