

This thesis focuses on the stability of ALM models formulated as problems of multistage stochastic programming, with respect to reductions in scenario tree. In the first chapter, we introduce multistage stochastic programming problem and the chosen approach of the master scenario tree generation. The second chapter describes models of asset price evolution in time and clustering algorithm used for generation of the master tree. In the third chapter, we describe three random and three deterministic scenario tree reduction algorithms. In the fourth chapter, we formulate two pension fund ALM problems - the first one is four-stage problem, the second one is seven-stage problem. The fifth chapter is dedicated to the description of the practical part of the thesis, in which we study and compare the stability of the objective function and the solutions in individual stages with respect to scenario tree reductions obtained from the algorithms described in the third chapter.