

ABSTRACT

The thesis is presented in 51 sheets. It contains 3 appendixes and bibliography of 24 references. Fourteen figures are given in the thesis.

The goal of the thesis is to develop mathematical models of the dynamics of capital insurance company through Markov chains and its software implementation.

Existing systems and methods for modeling the dynamics of capital insurance company are analyzed in the thesis. The developed software decided to build focusing on maximum applicability in practice.

According to the results of graduate design software developed in the programming language C#. Completed tests based on real statistics.

The developed software can be used by insurance companies, research institutes for modeling of the insurance company. The main users are scientific researchers in the field of actuarial and financial mathematics, forecasting department employee's insurance companies.

Keywords: actuarial mathematics, Markov chains, simulation of the dynamics of capital an insurance company.