

ABSTRACT

The thesis is presented in 87 sheets. It contains 3 appendixes and bibliography of 14 references. Thirty four figures and 1 table are given in the thesis.

The purpose of this thesis is developing mathematical and software tools for the system for predicting the exchange rate of the interbank currency market. The subject of study is the currency market, and the object is the exchange rate.

For the task was formulated the basic requirements for mathematical and software systems, conducted familiarization with the currency market, its basic concepts and principles of operation, review and comparison of existing prediction methods, selection of the best among them in selected criteria, the development of software that meets the requirements put forward for the necessary calculations. There were considered methods of intuitive, technical and fundamental analysis. The main requirements for methods are: ease of implementation, small amount of computation, high accuracy of forecasting. To solve this problem there were chosen methods of technical analysis - methods of exponential smoothing and Holt for short-term forecasting and Holt-Winters method for the long-term forecasting. For software implementation Delphi programming language was chosen.

Keywords: foreign exchange market, currency exchange rate, forward transactions, spot risk prediction, holt, trend, exponential smoothing, software, mathematical software.