

The topic: Systemic approach to analysis and forecasting of financial risks

Thesis: 123 p., 45 fig., 9 tabl., 1 application, 20 sources.

Object of the study – transient heteroscedastic financial and economic processes.

Subject of the research – mathematical models and methods that describe heteroscedastic processes, estimation and analysis of the quality of forecasts, and the estimation models of market risks.

Methods: theory of modeling and forecasting time series, regression analysis, statistical methods of analyzing financial risk.

The aim is to build adequate models of heteroscedastic processes for forecasting volatility and market risk estimation with their results.

In this paper a review of the main approaches to the estimation of market risks is presented, the method for estimating VaR also was considered and analysed. Furthermore, models and their features were reviewed to describe the dynamics and volatility forecasting. Results of modeling and estimation processes were analyzed in order to select the best model for estimation of market risks.

MARKET RISK, VOLATILITY, FORECASTING, VAR,  
AUTOREGRESSIVE CONDITIONAL HETEROSKEDASTICITY