

Abstract:

In this work we will describe methods for modeling multivariate financial time series. We will concentrate on both modeling expected value by multivariate Box-Jenkins processes and primarily on modeling conditional correlations and volatility. Our main object will be DCC (Dynamic Conditional Correlation) model, estimation of its parameters and some other generalizations. Then we will programme DCC model in statistical software R and apply on real data. In applications we will concentrate on problem of high dimension of financial time series and on modeling conditional correlations data with outliers.