Statistical Theory

Probabilistic Graphical Models and their Applicability in Economical Modeling

EDITH KOVÁCS (Budapest College of Management, Hungary, kovacs.edith@avf.hu)

TAMÁS SZÁNTAI (Budapest University of Technology and Economics, Hungary)

"Why did not the economical models forecast the financial crash?" This is a frequently asked question nowadays. One of the causes is the modeling of the multivariate probability distributions. The tail risk is a central problem of the globalized financial markets. Extreme losses are usually located at the tails of the probability distributions.

In our exposure we present a multivariate probability distribution family, which exploits the direct dependencies between the underlying variables. We expect that the model presented is able to model correctly the tail-events, too.

Keywords: Multivariate probability distribution, probabilistic graphical models, conditional independence, rare events