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Young Researchers Day
21 September 2007

Adaptive estimation procedure with applications

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Abstract.
Today copula models are highly used in modeling financial time series. Such time series show asymmetry in their tail dependence and this tail dependence varies over time. There are different ways to model time varying tail dependence. One of them is to assume a copula with time-varying dependence parameter. The idea is to compare parametric and semi-parametric ways of estimating time-varying dependence. A parametric approach was introduced by Patton (2006). This method will be compared to the adaptive estimation procedure of Spokoiny described in Giacomoni et all (2006). The copula models will be then compared to widely used Conditional Correlation models, for example the DCC model of Engle (2002).

Reference.

Engle, R. (2002) Dynamic conditional correlation: A simple class of multivariate generalized autoregressive conditional heteroskedastisity models. Journal of Business & Economic Statistics; 20, 3; ABI/INFORM Global pg. 339

Giacomini, E., Haerdle, W., Ignatieva, E. and Spokoiny, V. (2006), Inhomogeneous Dependency Modelling with Time Varying Copulae. SFB 649 Discussion Paper 2006-075.

Patton, J.A. (2006) Modelling asymmetric exchange rate dependence. International economic review, Vol. 47, No. 2, May 2006