KATHOLIEKE UNIVERSITEIT LEUVEN

Statistics Seminar

Joint organization by
ORSTAT, Faculty of Business and Economics and the Statistics Research Group, Faculty of Science
Leuven Statistics Research Center

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Asymmetric volatility models with structural breaks

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12:00—13:00

Location: Room HOG 03,101, Naamsestraat 69, Leuven.
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Abstract:
In this talk, we consider an asymmetric volatility model that takes into consideration, the structural breaks in the volatility process. The nested family of GARCH models have been modified to account for the structural breaks in volatility. The time points at which the structural breaks occur and other parameters of the model are estimated using MCMC and Gibbs sampling techniques. Models with different number of break points are compared using the likelihood and BIC. The whole procedure is illustrated using simulated as well as real data sets. The analysis shows evidence to the fact that the financial crisis in the market from October 2008 has caused a significant break in the structure of the return series of two major NYSE indices viz., S & P 500 and Dow Jones. The proposed model provides a wider scope for further investigations of the persistence in volatility and the long memory properties of the series.