

SEMINAIRE ECONOMETRIE DE LA FINANCE ET DE L'ASSURANCE

Jeudi 24 Février 2011

16H15 : Jeroen Rombouts (*HEC Montreal*)

« *Marginal Likelihood for Markov-Switching and Change-Point Garch Models* »

Abstract:

It is well known that conventional GARCH models are too restrictive for very long time series due to breaks in the volatility process. As an alternative, MS-GARCH and CP- GARCH are promising more flexible models for which inference is done with MCMC methods. An important issue is that marginal likelihood computation, essential for determining the number (K) of regimes or breaks in the models, a la Chib is not possible due to path dependence. Using the Particle-MCMC technique, we show how we can estimate the marginal likelihood. In a simulation study, we study the performance of this new method. Applications to S&P500 and Dow Jones index returns are provided.

17H30 : David Veredas (*ECARES, Solvay Brussels School of Economics and Management, Université Libre de Bruxelles*)

« *Disentangling Systematic and Idiosyncratic Risk for large Panels of Assets* »
(joint work with M. Barigozzi, C. T. Brownlees, G.M. Gallo)

Abstract:

When observed over a large panel, measures of risk (such as realized volatilities) usually exhibit a secular trend around which individual risks cluster. In this article we propose a vector Multiplicative Error Model achieving a decomposition of each risk measure into a common systematic and an idiosyncratic component, while allowing for contemporaneous dependence in the innovation process. As a consequence, we can assess how much of the current asset risk is due to a system wide component, and measure the persistence of the deviation of an asset specific risk from that common level. We develop an estimation technique, based on a combination of seminonparametric methods and copula theory, that is suitable for large dimensional panels. The model is applied to two panels of daily realized volatilities between 2001 and 2008: the SPDR Sectoral Indices of the S&P500 and the constituents of the S&P100. Similar results are obtained on the two sets in terms of reverting behavior of the common nonstationary component and the idiosyncratic dynamics to with a variable speed that appears to be sector dependent.

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GROUPAMA « Finance Comportementale »

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