

RESEARCH

Financial Econometrics and Financial Management

OBJECTIVES

Financial econometrics has gradually become a major topic of research over the last twenty years worldwide. This has gone along with the expansion and globalization of financial markets. Both the finance industry and its regulation require quantitative tools for risk management and evaluation, in particular in view of the Basel II capital adequacy accords.

RESEARCH TEAM

ECORE's team in financial econometrics and financial management consists of full time permanent professors: Luc Bauwens, Marco Becht, Griselda Deelstra, Catherine Dehon, Christine De Mol, Domenico Giannone, Pierre Giot, Christian Hafner, Sébastien Laurent, Guy Melard, Lucrezia Reichlin, Davy Paindaveine, Marc Hallin, Sébastien Van Bellegem and David Veredas. They supervise postdoctoral fellows and a group of PhD students.

The team has been a leading member of the research and training network Microstructure of financial markets in Europe funded by the European Union for the period September 2002-August 2006. Moreover, some members of the team have won the 2005 Joseph de la Vega Prize (for the best European research on stock markets) and many members have close ties with European exchanges (Euronext, XETRA in Germany, SIBE in Spain and the World Federation of Exchanges).

RESEARCH AREAS

The volatility of financial markets through ARC and stochastic volatility models and realized volatility. It is well known that financial volatilities move together over time across assets and markets. Understanding and predicting the evolution of the volatility of asset returns of interrelated financial markets through a multivariate modeling framework opens the door to improved management tools in various areas, such as asset pricing, portfolio selection, option pricing, hedging, and risk management.

The microstructure of financial markets, which covers issues related to the price discovery mechanism, the comparison of different structures of market design (electronic order books versus price driven markets), the dynamics of the trading processes of securities on stock markets, the analysis of the information content in limit order books or the resiliency of the order book with respect to volatility regimes among other research topics. In addition, a recent strand of the literature looks at the commonalities in the provision and consumption of liquidity. This paves the way for an interesting and practical research agenda regarding asset pricing and the optimal trading of large portfolios.

The econometric analysis of ultra high frequency data. For instance, the analysis of market reactions to news announcements (macroeconomic, political, natural disasters, etc) through the day or the study of intradaily seasonalities and trading intensities. The analysis of ultra high frequency data permits the optimal implementation of intradaily trading rules, of interest for hedge funds, or risk measures updated several times within the day.

Basel II proposes new risk measures. Indeed the first pillar of Basel II consists of the minimum capital requirements defined in terms of credit risk, market risk and operational risk. Quantitative methods for the analysis of these risk measures, as well as its interactions are fundamental questions for financial institutions and regulators.

CONTACTS

Professor Luc Bauwens
Tel. 32 10 47 43 36 – E-mail : bauwens@core.ucl.ac.be

Professor David Veredas
Tel. 32 2 650 42 18 – E-mail : dveredas@ulb.ac.be