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*A Doubly Continuous Model for Equilibrium Trading Dynamics*

Analysis of financial markets is usually based on rational expectations, where investors use all available information to trade in order to maximize their expected utility. In equilibrium models, prices are determined so that the market clears, meaning that demand equals supply. Typically, diverging information among homogeneous agents is not enough to generate trade in equilibrium. To address this issue, we introduce and analyze a doubly continuous model with continuous time and continuous agent space. In this setting, each agent is infinitesimally small, contributing zero to trade, while collective trade emerges from the aggregation over non-negligible sets of agents. Our approach leverages tools from Brownian sheets and multiparametric stochastic calculus, providing insights into the interplay of information, behaviour, and equilibrium in financial markets.

This talk is based on joint work with Efstathios Avdis (University of Alberta), Sergei Glebkin (INSEAD), and Raphael Huwyler (University of Alberta).