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Title: Optimal portfolio liquidation and predatory trading

Abstract:

A variety of circumstances can force a market participant to liquidate an asset position that is so large that selling it will significantly impact the underlying asset price. In this talk, we will review some of the mathematical models that have been proposed to deal with this often nonlinear price impact. We will then discuss the problem of constructing optimized liquidation algorithms that minimize a cost functional or maximize the expected utility of the seller. A particularly interesting situation occurs when competing traders become aware of the seller's intention and try to make a profit out of it. We show by an equilibrium analysis that the optimal strategies of seller and competitors are strongly dependent on the liquidity characteristics of the market and the number of competitors.