

An anticipative stochastic calculus approach to pricing in markets driven by Lévy processes

Bernt OKSENDAL

CMA - University of Oslo

Joint work with: Agnes SULEM, INRIA.

Workshop on Financial Modelling with Jump processes
Ecole Polytechnique (France), 6–8 September 2006.

Abstract

We use forward integrals, the generalized It-Ventzell formula and Malliavin calculus to solve stochastic control problems which arise in connection with utility indifference pricing of European options in markets driven by Lévy processes. The method applies to a large class of utility functions and to quite general markets. For example, the markets need not be Markovian. It also works in the case when the trader only has access to partial (e.g. delayed) information.