Advance stochastic models with financial risk applications [

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text (article)

Analítica

A probabilistic framework applied in financial models is not recent. At the beginning of the last century, Bachelier (1900) already enunciated in his doctoral thesis "Théorie de la speculation", supervised by Henri Poincare, what we now call Brownian motion. However, it was the papers by Black, Scholes and Merton (1973) on financial options that introduced a new way of using probability theory in f inance. Since then, mathematical concepts such as stochastic processes, martingales or stochastic integration have been increasingly used to describe the behavior of f inancial markets and assets. In this paper, we will explain a new approach based on stochastic variational calculus on the Wiener space. The motivation will be the management of financial risks. We will start from a probability space, the Brownian motion and a filtration. The objective will be to propose new advance stochastic models with financial risk applications
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