Option Pricing and Estimation of Financial Models with R

Description: Presents inference and simulation of stochastic process in the field of model calibration for financial times series modelled by continuous time processes and numerical option pricing. Introduces the bases of probability theory and goes on to explain how to model financial times series with continuous models, how to calibrate them from discrete data and further covers option pricing with one or more underlying assets based on these models.

Analysis and implementation of models goes beyond the standard Black and Scholes framework and includes Markov switching models, Lévy models and other models with jumps (e.g. the telegraph process); Topics other than option pricing include: volatility and covariation estimation, change point analysis, asymptotic expansion and classification of financial time series from a statistical viewpoint.

The book features problems with solutions and examples. All the examples and R code are available as an additional R package, therefore all the examples can be reproduced.

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