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A GENERALIZED BINOMIAL MODEL AND OPTION PRICING FORMULAE FOR SUBORDINATED STOCK-PRICE PROCESSES

Rajeeva L. Karandikar Svetlozar T. Rachev

Abstract: The first half of the paper is intended as a short survey on discrete- and continuous-time option pricing. In the second part, we develop new concepts and derive new results for option valuations within a generalized binomial model with random upturns and downturns, characterizing the equivalent portfolio, the trading strategy, and the call option valuation. Motivated by the Mandelbrot-Taylor Paretian stable model for stock returns we apply the generalized binomial model to obtain - in the limit - call valuation formulae for subordinated stock-price processes.

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