

Abstract

Title: Option Pricing

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In the present thesis we deal with European call option pricing using lattice approaches. We introduce a discrete market model and show a way how to find an arbitrage price of financial instruments on complete markets. It's equal to the discounted value of future expected cash flow. We present the binomial option pricing model and generalize it into multinomial model. We test the resulting formula on real market data obtained from NYSE and NASDAQ. We suggest a parameter estimate method which is based on time series of historical observations of daily close price. We compare calculated option prices with their real market value and try to explain the reasons of the differences.