

Povzetek

V delu sta predstavljena diskretni in zvezni model vrednotenja opcij. Cena opcije je začetna vrednost samovzdrževalnega portfelja, ki podvoji opcijo. Izračunamo jo kot matematično upanje vrednosti opcije v izvršilnem času, glede na mero, pri kateri je cena delnice martingal. V zveznem modelu Blacka in Scholesa predpostavimo, da se cena delnice giblje kot geometrijsko Brownovo gibanje. Za izračun martingalske mere definiramo stohastični integral po Brownovem gibanju, potem izpeljemo Itôvo formulo, izrek o reprezentaciji martingalov in izrek Girsanova o spremembi mere. Na koncu izračunamo ceno evropske nakupne opcije.

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Key words: Martingales, Brownian motion, Stochastic integrals, Local martingales, Itô formula, Representation of martingales, Girsanov theorem, Options, European call-option, Black-Scholes pricing formula.

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