

## عنوان مقاله:

Stock Option Pricing by Augmented Monte-Carlo Simulation models

## محل انتشار:

فصلنامه پیشرفتهایی در ریاضیات مالی و کاربردها، دوره 6، شماره 4 (سال: 1400)

تعداد صفحات اصل مقاله: 14

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## خلاصه مقاله:

Studying stock options is still a pristine area of research in the Iranian capital market. This is due to the lack of data as well as the complexity of valuation methodologies. In the present paper, using the Monte-Carlo simulation, we have estimated the value of stock options traded on Tehran Stock Exchange and examined whether the use of a control variate or antithetic variate augmented methods can lower the standard error of estimates. Furthermore, the estimated values of the three models under consideration, including crude Monte-Carlo, control variates augmented Monte-Carlo, and antithetic variates augmented Monte-Carlo are compared with each other and with options market prices. The results show that the standard error of the antithetic variate method is less than the crude method and control variate method. However, the control variate augmented Monte-Carlo model is more powerful than the crude Monte-Carlo and antithetic variate augmented Monte-Carlo method. Therefore, we can conclude that the control variate augmented Monte-Carlo model has a better performance in estimating the value of trading stock options and its estimated values are closer to the market prices.

## کلمات کلیدی:

Antithetic Variate, Control Variate, Monte Carlo Simulation, Stock Options, stepwise regression

## لینک ثابت مقاله در پایگاه سیویلیکا:

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