

INTISARI

Metode *Black-Scholes* Dan *Truncated Black-Scholes* dalam Menentukan Harga Opsi Eropa

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Black dan Scholes (1973) mengembangkan suatu metode penentuan harga opsi yang telah banyak diterapkan baik dalam konteks akademik maupun praktis. Asumsi praktis dalam metode *Black-Scholes* adalah *return* saham mengikuti distribusi normal dengan volatilitas konstan. Pada kenyataannya, bursa seringkali melakukan pembatasan terhadap pergerakan perubahan harga harian suatu aset. Sebagai akibat dari adanya pembatasan ini, *range return* (dalam bentuk logaritma) dari aset-aset yang diperdagangkan tersebut tidak lagi berada dalam interval $(-\infty, \infty)$, akan tetapi terpotong di atas dan di bawah.

Adanya pembatasan pada perubahan harga harian aset tersebut akan berakibat pada kurang tepatnya metode *Black-Scholes*, sehingga dikembangkan suatu metode baru yaitu *Truncated Black-Scholes*. Selanjutnya, dilakukan perbandingan antara harga opsi yang diperoleh dengan metode *Truncated Black-Scholes* dan metode *Black-Scholes* terhadap harga opsi di pasar. Dengan menggunakan SRPE (*Squared Relative Price Error*) sebagai kriteria penentuan harga opsi, hasil menunjukkan bahwa metode *Truncated Black-Scholes* lebih baik dibandingkan metode *Black-Scholes*.

Kata kunci: harga opsi, *Black-Scholes*, *Truncated Black-Scholes*, *Truncated Distribution*

ABSTRACT

European Option Pricing using Black-Scholes and Truncated Black-Scholes Method

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Black and Scholes (1973) developed an option pricing method which has been widely applied in both academic and practical contexts. Impractical assumptions made by the Black-Scholes method including constant volatility of stock return and normal distribution of return. In fact, daily price limits are implemented in many stock exchanges. As a result of the limitation, the range returns (in the form of logarithms) of the assets traded are no longer be in the interval $(-\infty, \infty)$, but truncated up and low.

With the limitation on daily price changes of these assets, Black-Scholes method is considered less precise. Therefore, a new method called Truncated Black-Scholes is developed. Furthermore, we compare the option price obtained by Truncated Black-Scholes method and the Black-Scholes method with option market price. Using SRPE (Squared Relative Pricing Error) as the criterion of option pricing, the result demonstrates that Truncated Black-Scholes method performs better than Black- Scholes method.

Keyword: Option pricing, Black-Scholes, Truncated Black-Scholes, Truncated Distribution