

Kajian model harga opsi saham Heston dalam menentukan implied volatility = Study of Heston stock option model in determining implied volatility

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Abstrak

[Model Black-Scholes merupakan model pertama penentuan harga opsi. Terdapat asumsi-asumsi yang harus dipenuhi pada model Black-Scholes, salah satunya volatilitas yang konstan. Karena asumsi tersebut, maka nilai implied volatility berdasarkan model Black-Scholes akan sama untuk setiap harga opsi. Implied volatility dipengaruhi oleh harga strike dan waktu jatuh tempo. Namun, pada skripsi ini, implied volatility dibatasi pada pengaruh harga strike saja dan hubungan antara implied volatility dengan harga strike diinterpretasikan dalam kurva smile. Bentuk kurva smile berbeda-beda tergantung pada data observasi nilai opsi di pasar dan bentuknya seperti senyum (smile), skew, atau smirk. Dengan mempelajari kurva smile, seorang investor dapat mempertimbangkan risiko berinvestasi opsi. Pada skripsi ini dibahas bagaimana cara menentukan implied volatility Heston yang diinterpretasikan dalam kurva smile. Untuk dapat menentukan implied volatility Heston, diperlukan harga opsi Heston yang disubstitusi ke model harga opsi Black-Scholes. Untuk memperoleh harga opsi Heston, dilakukan penurunan harga opsi saham Heston berdasarkan model pergerakan harga saham Heston. Kemudian, dengan menghitung beberapa nilai implied volatility Heston yang diperoleh dengan menggunakan harga strike yang berbeda, dapat dibentuk kurva smile Heston. Hasil analisis kurva smile dari implied volatility Heston menggunakan data Anglo American Shares dengan selang harga strike dan tingkat bunga bebas risiko yang berbeda serta waktu jatuh tempo yang tetap adalah sebuah kurva smile yang berbentuk smirk.

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