



Comparison of Static, Stochastic and GARCH Volatility Models in Derivative Warrants Pricing and Delta Hedging: Evidence from Thailand

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ABSTRACT

This study investigates the improvement of option pricing model to the data set of Derivative Warrants of 10 stocks in Thailand when specific volatility features (Stochastic jump and GARCH type) are taken into account. We compare empirical pricing and delta-hedging performance of three models: Black-Scholes (1973), Heston (1993) and Heston and Nandi (2000). We found that Heston model outperform the others for minimizing both pricing and hedging errors which response to jump risk in emerging market. The pricing performance is worsening when time to maturity increase. GARCH is the second best pricing model but it create the highest positive hedging profit which is beneficial to market makers, while Black-Scholes model is not too far behind those two specific features volatility models

Key word: Option pricing model, Out-of-sample pricing, Delta hedging, Stochastic volatility
GARCH volatility, Heston model, Heston and Nandi model