
Dickson Pastory¹ and Innocent Shau²

College of Business Education – Dar es Salaam Campus, P.O.Box 1968
Dar es Salaam, Tanzania

ABSTRACT

In this study, we focused on the practical use of Euler-Maruyama and Milstein methods to estimate the solution of the exchange rate volatility model. Then we investigated the effective numerical method basing on the variance, cumulative errors, and the speed of convergence. When estimating the numerical solutions of stochastic differential equations, simulation methods and their rates of convergence are necessary observations to take in consideration. The methods which converge faster than the others are more efficient when concerned with financial markets. It can be concluded that the Heston model for the exchange rate volatility is the best method for modelling exchange rate volatility as compared to the traditional model.

Keywords: Heston Model, numerical method, BOT, Exchange rate