

ABSTRACT

An option is a contract which gives the right to the holder to buy or sell an asset from/to a writer at a specified price and on specified date period. Barrier option is an option which the payoff depends on whether the asset price reaches a predetermined price level during the lifetime of the option. One of the efficient method to determine the option pricing is the binomial method. The binomial method approximation convergent to Black-Scholes model but resulting in an error with high fluctuations and saws pattern are still large when determining the option price. In this Final Project will be discussed how to determine European barrier call option using averaging binomial method. The difference from the binomial method is averaging binomial method using local average at the payoff on the expiry date. Barrier option pricing needs some parameters, such that the option price, strike price, barrier price, volatility, and risk-free interest rates. After determining the barrier option price using averaging binomial method, resulting in an error with lower fluctuations and smaller saws pattern. This makes averaging binomial method more stable and quickly converge to the Black-Scholes model.

Keywords: *option pricing, barrier option, averaging binomial, local average*