1077-60-2327 **Constantine Georgakis*** (cgeorgak@depaul.edu), Constantine Georgakis, Department of Mathematics, DePaul University, Chicago, IL 60614. *On the Volatility of Binomial Option Pricing Model.* Preliminary report.

The Binomial option pricing model describes the movement of the price of an asset that trades at equally spaced points in time and serves as the discrete analogue of geometric Brownian motion. The model assumes that the price of the asset the end of each trade moves up by a factor u with probability p and down by a factor d with probability 1-p. At the end of n trades the price Y(n) of the asset can be represented by an exponential of a Binomially distributed random variable T(n) with parameters (n, p). An inequality for the volatility of Y(n) that provides sharp upper and lower bounds for the ratio of the variance of Y(n) to the variance of T(n) in terms of the parameters of the model. This inequality carries over to the geometric Brownian motion in the limiting case. (Received September 22, 2011)