**BLACK-SCHOLES CALL PRICE**

Yara Inc is listed on the NYSE with a stock price of $40 - the company is not known to pay dividends. We need to price a call option with a strike of $45 maturing in 4 months. The continuously-compounded risk-free rate is 3%/year, the mean return on the stock is 7%/year, and the standard deviation of the stock return is 40%/year. What is the Black-Scholes call price?

SOLUTION

Stock Price (P0) = $ 40

NO DIVIDEND

Strike Price (X) = $ 45

Time (t) = (4/12) months

Risk \_ free rate = 3% / year (0.03)

Mean = 7 % / year

Volatility (S.D) = 40% / year

Upon looking up the values on a standard dev table;

Substituting into the expression for the call price and computing further gives;