1. Valuing Microsoft and Coca-Cola Options using the Black-Scholes Option Pricing Model

The objective of this project is to calculate the value of call and put options using the Black-Scholes Option Pricing Model (1973) for two actual companies: Microsoft Corporation (Ticker Symbol: MSFT), listed on the Nasdaq market, and the Coca- Cola Company (Ticker Symbol: KO) listed on the New York Stock Exchange (NYSE). Additionally, students are requested to estimate the sensitivities of an option price with respect to certain of its variables, so called the “Greeks”.

The five input variables for the Black-Scholes model are: (a) the price of the underlying stock, (b) the variance (standard deviation) of the returns of the stock underlying the option, (c) the time to expiration of the option, (d) the risk-free rate of return, and (e) the exercise price of the option.

The price of the underlying stock, the time to expiration of the option, and the exercise price of the underlying stock are found using Yahoo Finance. The variance of the underlying stock can be computed using daily return data for both companies taken from Yahoo Finance. The risk-free rate of return can be taken from the U.S. Treasury website.

Detailed information on data collection and manipulation can be found in the Project Instructions section at the end of this document.