# Portfolio Analysis 0 - Model with No Uncertainty.xlsx

Assumes historical returns all have same risk

Tab-Historical!G4: Calculates continuously compounded returns (add one and take the log). (As opposed to annually compounded). Calculate the ‘R’ by takin log; FV @ time=t => PV times e^(Rt)

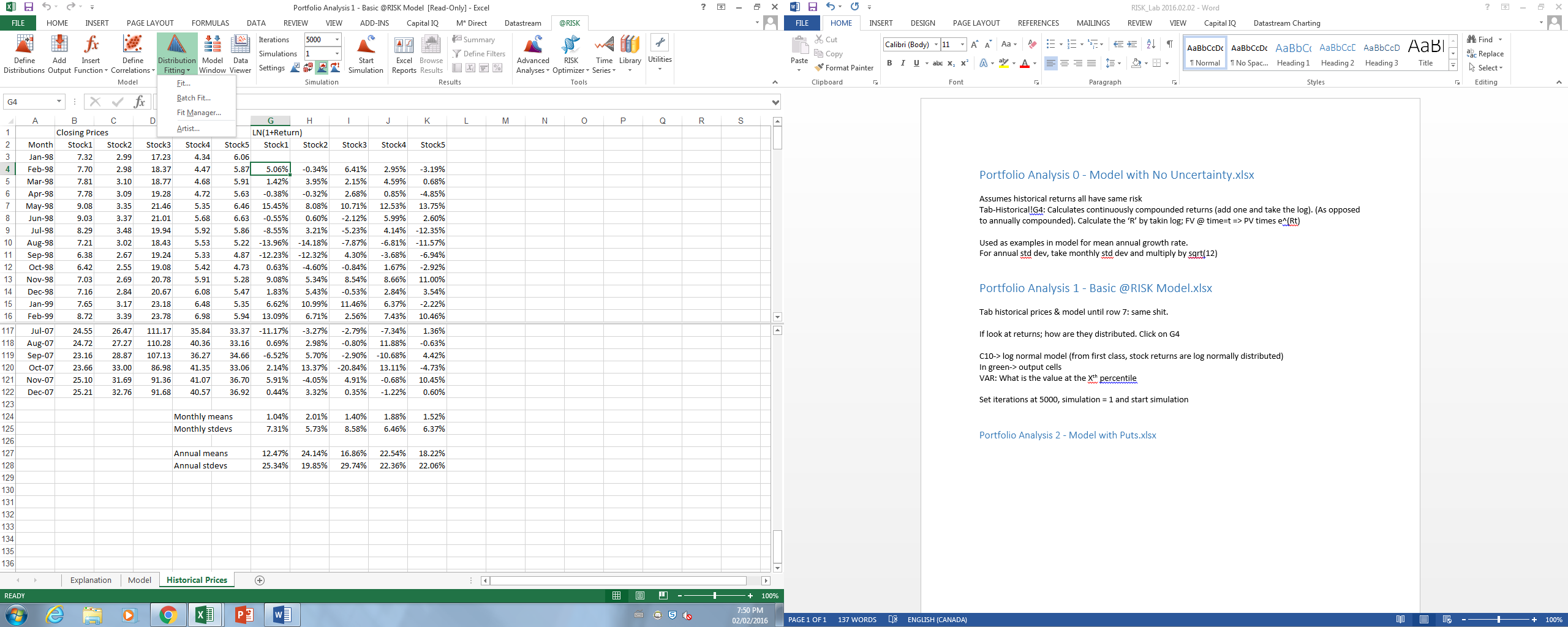
Used as examples in model for mean annual growth rate.

For annual std dev, take monthly std dev and multiply by sqrt(12)

# Portfolio Analysis 1 - Basic @RISK Model.xlsx

Tab historical prices & model until row 7: same shit.

If look at returns; how are they distributed. Click on G4, then click distribution fitting/fit



Data in blue is original data. Red line is fitted data based on sample

The fit ranking sorts the fits by most fitted model, sorted by AIC: AKEIKE Information Criteria: Tell you what the loss of information is by fitting the theoretical distribution (in this case, normal is the best fitted, exponential one of the least; visually makes sense). Goodness of fit Vs number of parameters used to fit the data.

The one with lowest AIC is best (information lost is the least)

Click on “write to Cell” to save fit parameters. When updating the data

C10-> log normal model (from first class, stock returns are log normally distributed; stock prices are normally distributed)

In green-> output cells

VAR: What is the value at the Xth Percentile?

Set iterations at 5000, simulation = 1 and start simulation

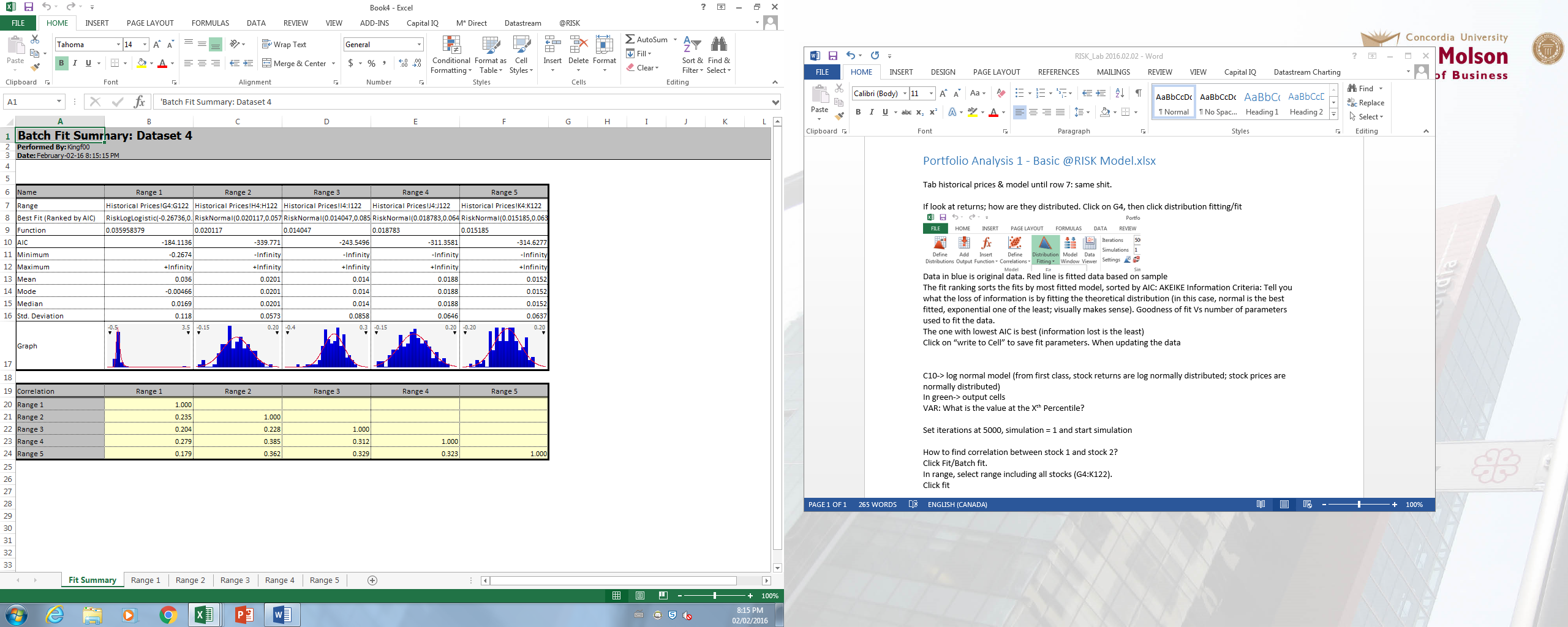
How to find correlation between stock 1 and stock 2?

Click Fit/Batch fit.

In range, select range including all stocks (G4:K122).

Click fit

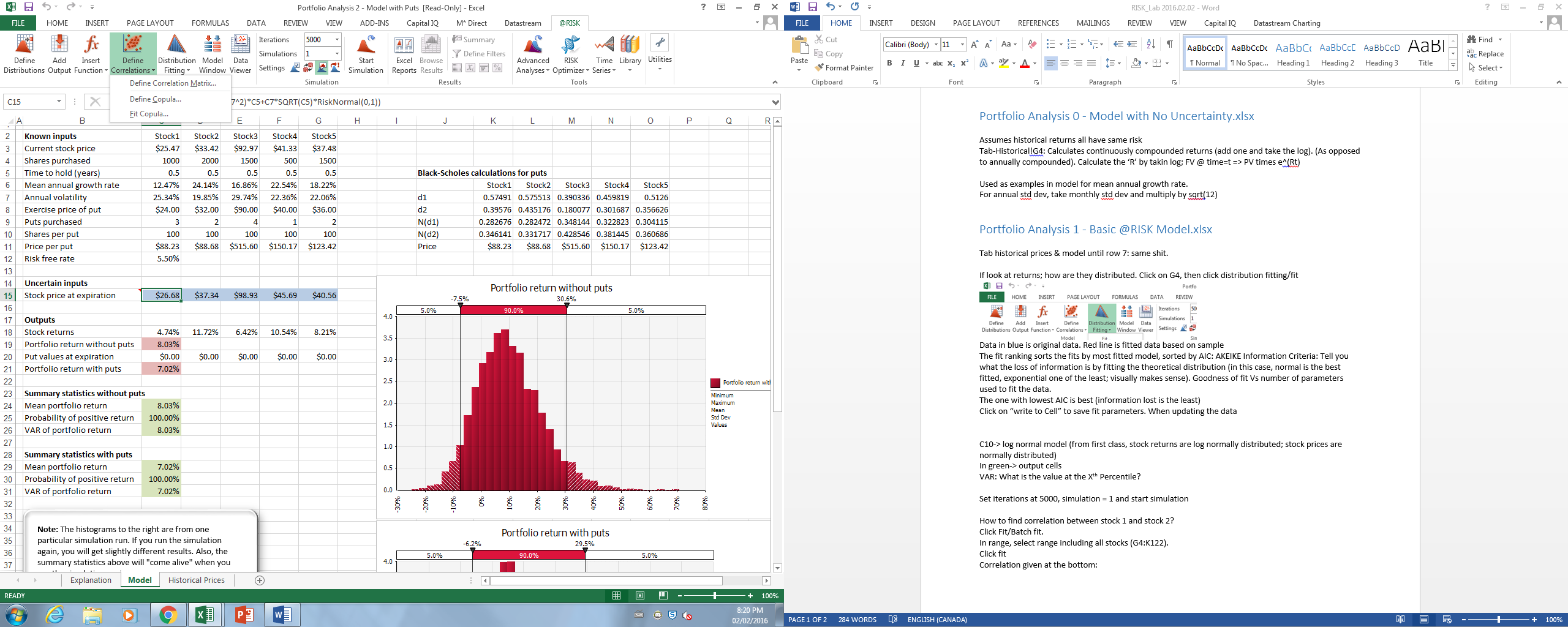
Correlation given at the bottom:



(not practical because calculated correlation of returns, not stock prices)

## Portfolio Analysis 2 - Model with Puts.xlsx

Define correlation matrix button



Then click “add inputs” to add correlation points

Can overwrite and put random correlation coefficients

Location of matrix: Where you want to put the matrix on the sheet.