**Excel file:**



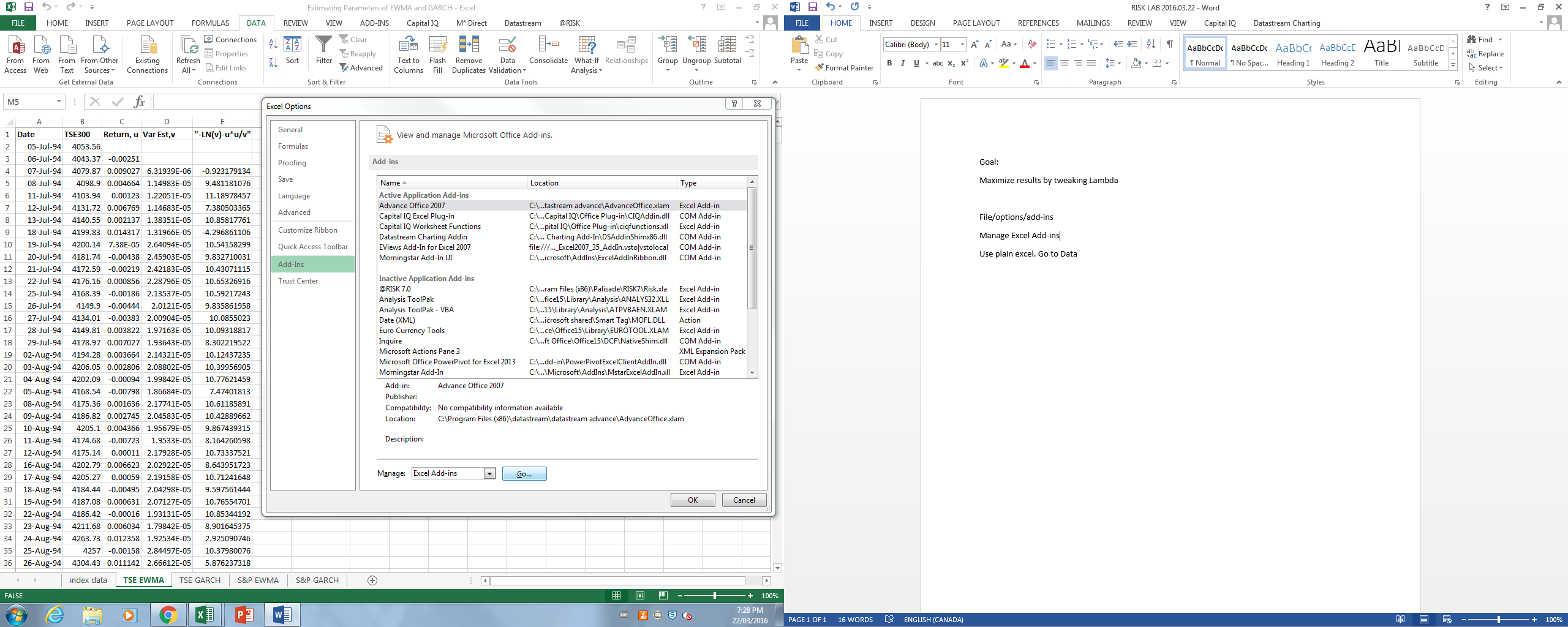
**TSE EWMA**

Goal:

Maximize results by tweaking Lambda

File/options/add-ins

Manage Excel Add-ins/GO



Add solver

Use plain excel. Go to Data, click Solver

Maximize Likelyhood by tweaking Lambda

**TSE GARCH**

Omega is a lot lower than Alpha, Beta about 10x that alpha. When solver is trying to tweak 3 value to maximize likelihood, then solver doesn’t work very well.

That’s why values are scaled to be close to each other:

|  |  |
| --- | --- |
| omega\*100000 | 0.395513425 |
| alpha | 0.139320557 |
| 0.1\*beta | 0.079280585 |

Place cursor in D5, this is the formula for GARSH

=$H$5+$H$7\*D4+$H$6\*C4\*C4

H5=Omega

H7=, multiplied by yesterday’s estimated of return (D4)

Then column E to find the log likelihood, try to maximize it.

GO to solver, maximize H9 by changing H1:H3

VaRHistoricalSimulExample



**Scenarios with Weights**

As you progress in the past, weight should decline.

But have to take cumulative weights (this new weight + last weight)

Then sort by weight; what we have in **Ranked Losses with Weights.**

**Data with Vol Ests**

Scenarios 1 = DJIA502 \* DJIA2/ DJIA1

= DJIA502 \* DJIA1 + (DJIA2 - DJIA1)

DJIA1

Same as sigma502/sigma1

So for model, just scale sigman/sigma1

Open precision tree

TO copy, click on node, copy sub tree

