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MF850 Problem Set 4

Problem 4.1:

(a) When the step n = 1, run the simulation I can get the result around:

P(LS) = 1.6212410756741895 P(TvR)= 1.6788000256404942

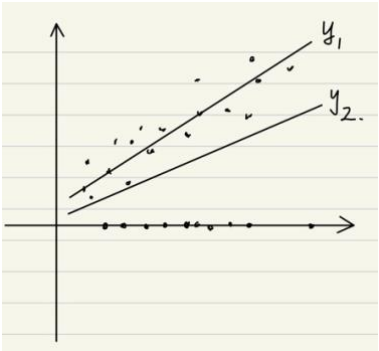
(b) When I extend the steps, for example, I set step = 252, which means we calculate the value of option every day. Running the simulation, we can get the result shown below:

P(LS) = 1.6376766383291201 P(TvR)= 2.084095182095087

(c) Similarly, I set step = 252, and back to focus on LS. I running the simulation including zeros and excluding zeros, the results are shown below:

P(including 0) = 1.6266137634725653 P(excluding 0) = 1.6344556179110707

In other words, only including sample P>0 make sense, just like the plot I drew below:



Y2 might be the regression line input all the samples, and y1 might be the regression line only include P>0. Obviously, there're lots of zero point which may have great influence on our least square evaluation. Too many zero points may make model fail to catch the character of the tendency.

***PS**: for the details, please check the code file(.jl)*