

Math 420, Spring 2018

Second Project: Economic Uncertainties

presentation due Tuesday, 8 May, 2018

report due Thursday, 10 May, 2018

This project explores how to use statistical metrics to guide the choice of the caution coefficient χ . Consider the asset groups A, B, and C assigned to you on the class website under “Projects”.

For each of the years ending December 31 of the years 2003-2017 use one-year histories of daily returns and uniform weights to calibrate \mathbf{m} and \mathbf{V} for

- Group A,
- Group A and B combined,
- Groups A, B, and C combined.

Present at least four statistical metrics of economic uncertainty. Apply them to each of the above groupings for each of the fifteen years.

Repeat the last homework assignment with $\zeta = 0, .25, .5, .75, 1, 1.25, 1.5, 1.75$ and 2 . For each of the first fourteen years determine which value of ζ yields the best performing portfolio in the subsequent year. Use scatter plots to seek correlations between these best ζ and the metrics that you presented above. Identify which if any of your metrics might have been useful in selecting ζ for the coming year.