Math 420, Spring 2020
Fifth Team Homework

due Thursday, 16 April, 2020

In the following exercises consider the risky assets in groups (A) (B) and (C) of your Project Two. Consider one-year histories of daily share price data for each asset over the years ending December 31 of 2015-2019. There are 20 quarters within this five year period.

Exercise 1. For each asset compute ω^{m} and ω^{v} for each quarter by compairing it to the other three quarters of the year in which it lies. Plot ω^{m} and ω^{v} as a function of quarters. There should be nine plots, one for each asset.

Exercise 2. For each asset compute ω^{KS} and ω^{Ku} for each quarter by compairing it to the other three quarters of the year in which it lies. Plot ω^{KS} and ω^{Ku} as a function of quarters. There should be nine plots, one for each asset.

Exercise 3. For each asset compute ω^{ar} and ω^{ac} for each year. Plot ω^{ar} and ω^{ac} as a function of quarters. There should be nine plots, one for each asset.

Exercise 4. Based on your answers to the previous exercises, identify which of your nine assets are better described by an IID model in each year. Give your reasoning. Which of the six metrics ω^{m}, ω^{v}, ω^{KS}, ω^{Ku}, ω^{ar}, and ω^{ac} where most useful to reaching your conclusion?