Econ 525 | Prof. Aguilar
Advanced Financial Economics | UNC at Chapel Hill

Student Name: _____
PID: _____
Honor Code Signature: _____

Matlab HW#8 - 4/05/19 @ 5:00pm

Instructions:

- You must state and justify any and all assumptions you make in the assignment.
- Your submission must be a professional presentation of your work.
- Students may collaborate, but each student must follow the honor code, and submit their own work. Obvious instances where more than one student utilizes the same spreadsheet or commentary will not be tolerated.
- This assignment must be completed using Matlab.
- Your deliverable should be a single m file with the following naming convention: "FirstName-LastName-HW#.m".
- This m file should be submitted to the 525 sakai dropbox by the due date and time stated above.
- The m file should include code for importing the data, as well as producing the requested figures.
- Provide any files (Excel, csv, etc) that are necessary for the m file to run.
- The m file should be heavily commented, detailing every step of your calculations. Please include the answers to the questions below within these comments.
- Please include the following in the preamble of your code:
  - %Purpose:
    - Econ 525-Spring2019
  - %Note:
    - This m-file is dependent upon xyz files.
  - %Author:
    - %Name — Date
    - %UNC Honor Pledge: I certify that no unauthorized assistance has been received or given in the completion of this work.

Suppose you are managing a commodity portfolio. use the following information to answer the questions below.

- Use daily returns data for the assets of the S&P Dow Jones GSCI for as long a period as available, while maintaining a balanced panel of data. The data is available on Factset.
- Use a Black-Litterman allocation strategy with a Normal reference model.
- Benchmark: S&P Dow Jones GSCI.
- Portfolio 1 (Port.1): Risk aversion=3. View1=Precious Metals returns equal to their historical averages. View2=Brent will outperform WTI by 1 percentage point. Set uncertainty to variance of assets as per equation 39 of Walters (2014), with $\tau = \frac{1}{T-k}$ as the best quadratic unbiased estimator.
- Portfolio 2 (Port.2): Repeat Portfolio 1, but set the uncertainty of the second view to be twice that of the first view.
- Portfolio 3 (Port.3): Repeat Portfolio 1, but double risk aversion.
- Portfolio 4 (Port.4): Repeat Portfolio 1, but with virtually no uncertainty in either view.

1. Fill in the following table (include rows for all assets).

		Weights				
Index Tickers	Index Name	Benchmark	Port.1	Port.2	Port.3	Port.4
Gold						
Silver						
...						

2. Within 1-3 paragraphs, please compare and contrast each of the portfolios. Make sure to largely focus on the differences in weights between portfolios and the reasons for these differences.