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\* Homework 1

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\* Instructions:

\* To create this document, first copy and paste the full text here into a .Do document (a STATA Do-File).

\* Below each question, write the code you used to answer the question

\* Next, write your actual answer to the question by commenting out your writing (by starting the line with a \*)

\* Next, copy and paste the entire document (my writing and yours) into a Word document. This will allow me to see your code on Canvas without downloading every homework.

\* The goal is that I should be able to copy and paste your entire text into a .Do File and run the code without any errors.

\* Finally, submit file as Homework 1 on Canvas

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\* Topic 1: Using STATA

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\* 1. Import the AssetReuturns file

import excel "/Users/henryvelasquez/Documents/MBA/MBA S3/2nd 7/Machine Learnin

> g in Finance K579/HW1/AssetReturns.xlsx", sheet("Sheet1") firstrow case(lower)

\* 2. Save File as Homework1

/\*Pressed CTRL+S\*/

\* 3. Estimate the Mean, Minimum, and Maximum of Annual S&P500 Returns

codebook annualreturnsp500

/\*

Mean:.118206

Minimum: -.4384

Maximum: .5256

\*/

\* 4. Estimate the 25th and 75th percentile of Annual S&P 500 Returns

/\*

25th Percentile: -.0119

75th Percentile: .2594

\*/

\* 5. Estimate the variance of Annual Return in Treasury Bonds in 1992-2002 (including 1992 and 2002)

summarize annualreturntbonds if year >= 1992 & year <= 2002

/\*

Variance = stddev^2 = .101196^2 = .01024

WOULD LOVE TO LEARN HOW TO PROPERLY USE COLLAPSE TO STORE STATISTICS IN VARIABLES

\*/

\* 6. Estimate the median of Annual Returns on Real Estate when Annual S&P500 Returns are positive

codebook annualreturnrealestate if annualreturnrealestate > 0

/\*

50th Perecntile Value = Median = .1364

\*/

\* 7. Estimate mean Annual Corporate Bonds Returns when years are less than 1945 or year are between 2008 and 2012 (including 2008 and 2012)

codebook annualreturncorporatebonds if year < 1945 | year <= 2012 & year >= 2008

/\* Mean = .075786 \*/

\* 8. How many times is inflation exactly 0 (Hint: use tabulate)

tabulate inflationrate

/\* inflation is 0 ONLY ONCE \*/

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\* Topic 2: Graphing in STATA

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\* 9. Create a histogram of Inflation with a 2% bar width

hist inflationrate, normal width(.02)

\* 10. Create a box plot of Returns for all Assets

\* Based on the graph, which asset has the greatest highs? The greatest lows?

graph box annualreturnsp500 annualreturntbills annualreturntbonds annualreturncorporatebonds annualreturnrealestate

/\* According to the graph, the S&P500 has the greatest highs and lows \*/

\* 11. Create a Scatter plot with inflation as the x-variable and annual real estate returns as the y-variable.

\*Does Real Estate pay well when inflation is high or low? Why?

twoway(scatter annualreturnrealestate inflationrate)(lowess inflationrate annualretunrealestate)

/\*

Real estate does tend to pay higher as inflation rates increase. This can be seen by the upward slope of the best fit line.

\*/

\* 12. Create a two-way layered graphic with both a scatter plot and a linear fit. The y-variable is Corporate Bond Returns and the x-variable is Treasury Bonds Returns

twoway(scatter annualreturncorporatebonds annualreturntbonds)(lowess annualreturntbonds annualreturncorporatebonds)