Assignment 3

FIN525, Spring 2019

Due: March 29th, Midnight

1. Assignment details

In this project, you will be asked to analyze if stock return alphas are predictable. This section outlines the analysis that you will need to perform, while the next section explains what you are expected to deliver.

- Data
  - Download the monthly stock file from CRSP. Keep the permno, date, ret and siccd variables. To ensure your analysis is not driven by outliers, delete observations with return higher than 100%. Keep only data from 1970 to 2016 (including those years).
  - Download the monthly data on the Fama-French 3 factors (mktrf, smb and hml). Keep only data from 1970 to 2016 (including those years).

- Analysis
  - For each SIC industry, calculate the average return of the stocks in that industry, for every month in your sample. Store these means in a separate SAS dataset. Merge this dataset with the Fama-French data. Call this merged dataset "Merged_Data". Calculate industry excess returns by subtracting the risk free rate (rf) from the industry return.
  - For each SIC industry, regress its excess returns from "Merged_Data" on the market return (mktrf) using only the data from 1970 to 1995. Store the estimates in a SAS dataset "Alphas1".
  - For each SIC industry, regress its excess returns from "Merged_Data" on the market return (mktrf) using only the data from 1996 to 2016. Store the estimates in a SAS dataset "Alphas2".
  - Merge the "Alphas1" and "Alphas2" datasets by siccd.
  - Regress the industry alphas from "Alphas2" (this will be your dependent variable) on the industry alphas from "Alphas1". Store the results in an excel sheet and call this table "Table1"
  - **Question 1:** Do alphas in the first part of the sample (1970 to 1995) predict alphas in the second part of the sample (1996 to 2016)? Explain.

2. Submission instructions

You need to submit your SAS code and a written report on D2L before the deadline. Please see the details below:

1. On D2L, please upload a SAS file containing the code you used to generate your results (click on the NAME of this assignment on D2L, not on the attachment. That should take you to a screen where you can upload files).
    a. Make sure you comment your code properly. It should be very clear what you are doing by just reading your comments.
    b. If your code does not compile properly (i.e. if the log shows errors) you will lose 10% of your points so please make sure you check your log every time you run your code.
    c. The title of this file should have the following format: <Last names of group members, separated by underscores>_Assignment03. So, for example, if I did the project together with your TA, our file would be titled "Ion_Beggs_Assignment03".

2. On D2L, please upload a written report (either Word of PDF document) which includes a description of your analysis:
    a. Your report should have the following structure:
        i. Intro: a few sentences about what this analysis will cover
        ii. Data: a paragraph or two about your data sources, the filters you put on it and how you merged the datasets.
        iii. Results: Use the output in Table1 to answer Question1 (1-2 paragraphs).
        iv. Conclusion: Summarize the main findings of your analysis (1-2 paragraphs).
        v. Tables, if any (properly titled).
        vi. Figures, if any (properly titled).
        vii. Appendix1: the SAS code you used to produce your results
    b. From intro to conclusion (excluding tables, figures and appendix), the report should be no longer than 4 pages, Times New Roman, one and a half line spacing, 12 pt font.
    c. Tables should be exported and then formatted in excel (i.e. your SAS code should have a portion where you export results into excel). It is NOT OK to copy and paste SAS output.
    d. Make sure your graphs are properly labeled so that it is easy to understand what is being plotted and what the axes are.
    e. The formatting of your report accounts for 10% of your score. It needs to look professional and it needs to read as if you are explaining your results to your boss/client who may not know much about finance.
3. Please make one submission per group and make sure that the names of all the group members show up both in the SAS file and on the written report.

IMPORTANT: Please make sure you do not delete (of later modify) the data or code you used to produce your results. We might ask you to send it to us if we need to re-run your tests. Also, make sure you keep an electronic copy of the written report you hand in during class, just in case we lose your copy and need you to send us another one.

If you have any questions regarding the instructions above, please email me at mihaiion@email.arizona.edu.