Assignment 1

FIN525, Spring 2019

Due: Feb 8th, Midnight

1. Assignment details

In this project you will be asked to analyze several important characteristics of US public firms. This section outlines the analysis that you will need to perform, while the next section explains what you are expected to deliver.

- Data
  - Download data on annual accounting variables from Compustat. We will restrict ourselves to the 1975-2016 sample period for this analysis.
  - To clean the Compustat data, keep only firms that are incorporated in the United States (see the "fic" variable), who have positive total assets (at), and positive revenues (revt). Also, eliminate financial firms (these are firms with SICs between 6000 and 6999) as they have non-standard capital structure.

- Variables of interest
  - Using Compustat data, calculate the following variables:
    - Investments (capx) to lagged assets (at) → call this variable "Investments"
    - Net profit (ib) to revenues (revt) → call this variable "Profitability"
    - Cash holdings (che) to assets → call this variable "Liquidity"
    - Book leverage ((dltt+dlc)/at) → call this variable "Leverage"
    - Dividends (dvc) to lagged assets → call this variable "Dividends"

- Full-sample summary statistics
  - Table 1: For all the variables above (Investments, Profitability, Liquidity, Leverage, Dividends), report the following statistics: Mean, standard deviation and the 5th, 25th, 50th, 75th, and 95th percentiles. This should be a 5x7 table (one row for each variable, one column for each statistic).

- Time-series analysis
  - Graphs 1-5: Calculate the annual averages of each of the five Compustat variables (Investments, Profitability, Liquidity, Leverage, Dividends) and plot them (you should have one graph per variable).
  - Graphs 6-10: Calculate the annual medians of each of the five Compustat variables (Investments, Profitability, Liquidity, Leverage, Dividends) and plot them (you should have one graph per variable).

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>_Assignment01. So, for example, if I did the project together with your TA, our file would be titled "Ion_Beggs_Assignment01".

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 cleaned it.
        iii. Results: Describe the results found in each of your tables and graphs (several paragraphs).
        iv. Hypotheses: Pick the most interesting finding that came out of your analysis and provide two different hypotheses that may explain those findings (1-2 paragraphs).
        v. Conclusion: Summarize the main findings of your analysis (1-2 paragraphs).
        vi. Tables (properly titled)
        vii. Figures (properly titled)
        viii. 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.