

Assignment 1

UE Methods of Empirical Finance (Seminar)

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Your task is to write a **scientific report** (maximum six pages) based on the data provided in `russe113000_data.csv` in teams of two. Your report should contain all relevant parts of a standard research project (see below).

The data set contains data from companies represented in the Russell 3000 Index, a capitalization-weighted stock market index that seeks to be a benchmark of the entire U.S stock market, taken from Bloomberg.

Part 1: Introduction (motivation, research questions incl. hypotheses)

- Motivate and develop research questions for your report. Develop *at least three hypotheses* that could be tested with the data set at hand. Be creative in finding a motivation/research questions for you report.

Part 2: Data and descriptive statistics

- Describe the available data set (what kind of data do you have at hand, what variables are in the data set, what companies are in the data set, data categorization (e.g. metric, etc.)).
- Check for inconsistencies and report manipulations that you applied to the data set (e.g. newly calculated variables, correction due to typos, missing values etc.).
- Prepare a table containing descriptive statistics about the data at hand. Questions you might address are, among others: What statistics are of particular interest and help to provide useful information to the reader considering your research questions? What is a good way to present the table?
- Prepare one or more figures containing descriptive statistics about relevant variables for your research questions.

Part 3: Data analyses and results (test hypotheses and answer your research questions)

- Test your hypotheses applying appropriate statistical tests. Justify your choice of statistical test(s) and comment on upcoming issues regarding the statistical power, multiple hypotheses, normality assumptions, etc.

- Interpret and show your results. Can you reject the respective null hypotheses? Think about what could be a good way to present your results in a meaningful and still easy to understand way (tables, figures)? Make sure that your test statistics are suitable to test your hypotheses. Comment on your results.

Part 4: Conclusion

- Repeat your motivation, state your main findings (“We did ...” , “We find that ...” , etc.), and discuss your results.

Important: Make sure to use a statistical software package which allows you to write scripts and *document* in a script how you solved the assignment, i.e. how you loaded and manipulated the data, how you calculated descriptive statistics and prepared figures, how you checked normality assumptions for your relevant variables, and how you ran the respective statistical tests. *Use comments to make it easy to understand your script and make sure your results are reproducible.*

Submission:

You are expected to hand in *both* a report as outlined above (.pdf) as well as your script (e.g. .R, .do, etc.) to be able to reproduce your results.

Submission deadline: December 13, 2019, 23:59 UTC+1 (via submission folder on OLAT)

File format for the report: .pdf

File name for the report: Surname1_Surname2_Assignment1.pdf

File name for the script: Surname1_Surname2_Assignment1.*

Maximum number of points: 35