

# Research Topics in Finance (Master)

## Organization

In this research seminar we will solely focus on one goal: Making you ready for quantitative research in Finance. Hence, your task is to (partially) replicate and extend a self-chosen recent research paper related to **Initial Public Offerings (IPOs)** using the programming language Python.

## 1 Schedule

The following table summarizes the key organizational facts of the seminar.

Step	Time	How?
Kick-off-Meeting	tbd	Joint Zoom-Meeting
Paper-Choice-Meeting	tbd	One-on-one Zoom-Meeting
First-Results-Meeting	tbd	One-on-one Zoom-Meeting
Submission	tbd	Code and slides as pdf via Mail to <a href="#">tba</a>
Presentation	tbd	Joint Zoom-Meeting

The one-on-one meetings are **required**. You need to make an appointment with your advisor by yourself.

## 2 Paper Choice

The topic of your paper should be related to current research of the chair. Therefore, this semester you should focus on empirical work regarding

### Initial Public Offerings (IPOs).

Start searching for papers using the attached bibliography. We encourage you to search for further papers on <https://scholar.google.de> or directly in journals to gain a broad overview. Note that not all papers on our list are appropriate for replication. Read the introductions, take a deep look at the data sections, the tables and figures because this is what you need to replicate. The following list shows some criteria of a good paper to replicate in this seminar:

- The paper interests you.

- You have access to the data. Sometimes data is free, but more often no. Take a look at <https://www.ub.tu-dortmund.de/Fachinformation/Wirtschaftswissenschaften.html> to see university-wide databases. In addition, the Finance chair has access to SDC which is needed for the IPO list and some other databases. Feel free to ask!
- There are modules available in Python to calculate the variables and do the statistics.
- The journal has a good reputation. See <https://www.scimagojr.com/journalrank.php?area=2000> and [https://vhbonline.org/fileadmin/user\\_upload/JQ3\\_BAFI.pdf](https://vhbonline.org/fileadmin/user_upload/JQ3_BAFI.pdf) for journal rankings.
- The paper is quite recent.
- The paper had an considerable impact in the academic world.

A good paper choice is important in this seminar. During the **Paper-Choice-Meeting** you briefly present your progress with respect to paper choice to the advisor. You present one or more papers in your closer selection (without slides), discuss what you can replicate and what not. At least one week later you should finally decide and send your paper to your advisor. Then, your paper is subject to approval by the advisor. However, the risk that you notice missing data or other problems too late is yours!

### 3 Replication and Extension

Now it is time to work on the paper. Read it from front to end, research and read the relevant literature around it, and get to know the details Your goal in this step is to be able to present the paper you have chosen, i.e. know what it does, why it does it and what the outcome and shortcomings are.

**Replication** Get the input data for the paper. Using Python you try to replicate each table and figure of your paper. For each of the replicated objects, you create one script yielding the table or figure in a way which makes it easy to compare to the original version. Number the scripts and outputs consecutively and include the original name of the object in the filename of the script and output.

**Extension** This is the hard part. Here you start doing your own research. You extend the paper in any direction. For example: Do the analysis with other data (e.g. paper did it for the US, you try EU etc.), include new variables or even apply the methodology to a new problem or idea. This part really has to come from you and in order for you to be as free as possible we will not cap the outcome of this part in your grade (see below regarding grading). Your goal in this step is to be creative, do real research and this includes that you might fail with your idea. Do not worry: it is rather the best opportunity to learn.

**Replications vs. Extensions** In agreement with your advisor it may be possible that you set your focus more on replicating or extending. That is, if you want to make a larger part with own extensions you can waive creating some of the original tables/figures.

**First-Results-Meeting** During this meeting you report on replication and extension progress. It should be as early as possible in order to be able to eliminate potential problems.

## 4 Submission

In this seminar you are not required to compile a classical written composition. Instead, the main result of your seminar is commented Python code which yields tables and figures from your input data. The classical text is replaced by the comments in your code. Here, you are required to explain what you do, why you do it and discuss your results in relation to the results in your paper. You should also sketch your extension idea within the comments, explain why it makes sense, what you expect and relate it to the literature.

The presentation of your paper and your results complements commented code. More detailed, you need to turn in

- your organized Python code with source data and comments,
  - numbered, named Python scripts: first replication files followed by extension files
  - code and data in separate folders
- the original paper
- slides for your presentation as PDF

via e-mail to [tba](#).

We will base the final grade of the seminar the correctness of your code/replicated material/comments, on the quality of your presentation, your creativity regarding extensions, and your individual progress in understanding the research you are dealing with. Thus, your attitude and improvement are major parts of your grade and not only your success (or failure) in doing your own analysis.

## 5 Presentation

In order to let you focus on the content of your paper, you don't need to produce a classical seminar paper. However, you prepare a 10 min presentation. Hence, you need to limit yourself to only a few slides, for example in the following manner (4 slides + title page):

- Slide 1: Your research paper's main findings and main assumptions

- Slide 2: Your research paper’s dataset and main shortcomings in your view
- Slide 3: Your extension idea
- Slide 4: Your results and/or your suggestions for future research in that area

The presentation is in **English** and will be followed by questions from the audience and the examiners.

## 6 After the seminar

After finishing this seminar you are able to conduct own research based on high-quality papers which is a very good step for a master student. We can discuss how this knowledge helps you in your master thesis or how you can possibly extend the topic towards your thesis. Just see us at the office hours. This seminar seeks to provide you with a safe environment to learn and improve your skills! If you have any questions feel free to contact us. We at FiRRM are looking forward to working with you.

## References

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