

Discipline: Accounting

1. Language

English

2. Title

Quantitative Empirical Accounting Research and Open Science Methods

3. Lecturer

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4. Date and Location

Virtual,

07., 09., 11. and 14. September 2020

5. Course Description

5.1 Abstract and Learning Objectives

This course focuses on quantitative empirical accounting research, covering theoretical, methodological and technical aspects of this research program. It also introduces students to the concepts of Open Science. In terms of applications, it concentrates on financial accounting issues but also touches on some managerial and auditing topics. After this course, participants should

- have a clear understanding about the theoretical foundations of quantitative empirical accounting research,
- know the methodological approaches to and common pitfalls of empirical research designs,
- have become familiar with a collaborative open science workflow using R/Python/Stata and Github,
- know how to execute empirical archival studies, including the usability and inter-operability of different data source
- and, based on their own research proposal, have received constructive feedback on how to design and execute a viable study in the area of quantitative empirical financial accounting research.

5.2 Content

Empirical research in accounting is taking a leading position in international academic journals. It encompasses different research approaches, ranging from behavioral experimental and field surveys to archival studies. This course concentrates on quantitative empirical archival research in the area of financial accounting but also touches on other empirical methods. Empirical archival research is based on observational data which are available from databases or other sources. These data are then used to test predictions of theories in the areas of positive accounting theory or capital market-based accounting research. Topics in the area of positive accounting research cover issues like accounting choice, (voluntary) disclosure quality, earnings management as well as governance-related accounting questions. Capital market-based accounting research focuses on topics like the pricing impact of financial accounting disclosure on capital markets, the connection between accounting and the cost of capital or the interplay of financial accounting and corporate finance decisions.

This course concentrates on financial accounting but also touches on other accounting topics. The theoretical lectures are discussing the economic underpinnings of this research program. The research design lectures focus on the econometrical problems of causal inference based on observational data. The research execution sessions are designed to give students hands-on experience on the Open Science workflow. During and in-between the sessions, we will work jointly on a small project, starting with data wrangling and ending with discussing the publication process.

5.3 Schedule (including start and end time)

07.09.2020 (Day 1)

Start: 9 am

End: 5 pm

Introduction: Why empirical research in accounting?

Theory: Positive Accounting Research

- The positive accounting research paradigm
- Microeconomic foundations
- Asset pricing foundations

Research Design:

- Descriptive versus Causal Studies
- The Counterfactual Framework

Execution:

- Data sources
- Software: Github, R, Python, Stata
- The Open Science workflow
- Data wrangling

Joint project:

- Introduction of setting and question
- Data presentation

09.09.2020 (Day 2)

Start: 9 am

End: 5 pm

Theory: Financial Accounting and Incentives

- Equity-related incentives
- Debt-related incentives
- The role of the auditing process

Research Design:

- From the research question to the research setting
- Identification strategies

Execution:

- Exploration
- Modeling and testing

Joint project:

- Exploratory data analysis
- Discussion of potential identification strategies

11.09.2020 (Day 3)

Start: 9 am

End: 5 pm

Execution:

- Assessing robustness
- Writing a paper and presenting your work
- Getting yourself published

Workshop:

- Proposal presentations

13.09.2020 (Day 4)

Start: 9 am

End: 5 pm

Joint Project:

- Result presentation and discussion

Workshop:

- Proposal presentations

Wrap-up and feedback

5.4 Course format

The course consists of a combination of lectures on theory and methodological issues, group assignments, student presentations and group discussions. The objective of the course is to introduce the participants to the state-of-the-art of empirical accounting research and to help them to develop their own research projects. To achieve this, students are asked to submit research proposals (up to 1,000 words) prior to the course. Each proposal will be reviewed, and feedback will be given to students. On the last day of the course, students will be presenting their (updated) research plans to the group and will receive additional feedback. In addition, the course will work jointly on a project over the duration of the code with the aim to practice the skills that are communicated during the course.

6. Preparation and Literature

6.1 Prerequisites

The course requires intermediate skills in statistics and econometrics as well as a solid background in financial accounting. Also, the students should be familiar with the fundamental concepts of information economics and asset pricing as well as corporate finance. Topics like OLS regression, contract theory, and arbitrage pricing theory should sound familiar to the participants.

In terms of data science experience, some basic knowledge of a statistical programming language (e.g., Python, R or Stata) is expected. We will be predominantly working with R during the seminar but students are also invited to work with Python or Stata if they prefer. Students that are not familiar with either language are strongly encouraged to work through the opening chapters of "R for data science" prior to attending the class.

6.2 Essential Reading Material

A small reading list containing a maximum of three papers that will be discussed during the lectures will be distributed by Aug 24, 2020.

6.3 Additional Reading Material

Textbook on the data science workflow:

Grolemund, G. and H. Wickham (2017): R for Data Science, O'Reilly:
<http://r4ds.had.co.nz>.

Overview on current research topics in the area of financial accounting:

Journal of Accounting Research, Volume 54, Issue 2, pp. 277-676 (2016).

Journal of Accounting and Economics, Volume 50, Issues 2-3, pp. 127-466 (2010).

Textbooks on accounting theory:

Christensen, J. A. and J. S. Demski (2003): Accounting Theory: An Information Content Perspective, McGraw-Hill.

Wagenhofer, A. and R. Ewert (2007): Externe Unternehmensrechnung, Springer, 2nd edition.

Textbooks with an emphasis on microeconometrics and/or applied questions of causal inference:

Angrist, J. D. and J.-S. Pischke (2009): Mostly Harmless Econometrics: An Empiricist's Companion, Princeton University Press.

Morgan, S. and C. Winship (2015): Counterfactuals and Causal Inference. Cambridge University Press.

Wooldridge, J. M. (2010): Econometric Analysis of Cross Section and Panel Data, The MIT Press.

6.4 To prepare

All participants are required to read the papers on the reading list (not the overview/background list!) prior to the course. Students not familiar with either R or Stata have to work through the opening chapters (1-8) of "R for data science". Every student has to submit a current research proposal (maximum of 1,000 words) by Aug 31, 2020. This proposal can be preliminary but should contain a potential research question, discuss why this research question is relevant and how it fits into the academic literature. In addition, it also should include some concept for a potential research design that might be used to address the research question. Each participant will present his or her proposal in class (15 minutes presentation time, not including discussion). By August 24, 2020, I will send around a link to a Github repository containing data and some first data-based assignments that students are expected to submit by September 4, 2020 to class to start the group-coding project. If feasible, students should bring a laptop to class with R, RStudio, and git installed. All software components are open source and freely available. A guide for setting this work environment up can be found at: <http://happygitwithr.com>.

7. Administration

7.1 Max. number of participants

The number of participants is limited to 20.

7.2 Assignments

Every student has to submit a current research proposal and the completed data assignment. Each participant will present his or her proposal in class (15 minutes presentation time, not including discussion).

7.3 Exam

The data assignment will be evaluated as a fail or pass. The grade will be based on the research proposal (20 %), proposal presentation (40 %) and on the active participation during the workshop (40 %).

7.4 Credits

The course is eligible for 6 ECTS.

8. Working Hours

Learning activity	Hours
Reading the assigned literature	20 h
Preparing the research proposal	40 h
Updating research proposal based on feedback	30 h
Preparing proposal presentation	30 h
Preparing data-based assignment	30 h
Active class participation	30 h
TOTAL	180 h
ECTS: 6	