ECON3013 Advanced Financial Economics

The University of Nottingham

2020

Instructor

- Adam Hal Spencer (Assistant Professor of Economics).

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Teaching Assistant

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Contacting the Instructor

The best method of contact is **via email**: I'm happy to answer questions through this platform. If you send me an email and don't receive a response within a couple of days, please feel free to send me another, (I get a bit forgetful sometimes).

Format of the Class

- Recorded lectures: 2–3 hours per week.

- Office hours: Tuesday (10:00–11:00) and Friday (15:00–16:00 [engagement]).

Course description

This module gives students a rigorous and formal introduction to the field of financial economics. The course is split into two main topics: corporate finance and asset pricing. Corporate finance asks: if a firm wants to undertake a new project, how should they finance it? Asset pricing aims to explain the determinants of asset returns. Each section starts with theoretical foundations then moves towards detailing empirical evidence from research.

Mathematics Techniques

This module will be mathematical in nature. I will not expect you to write complicated proofs or anything like that, but there will be some techniques that you will be required to master and apply constantly throughout the module. In particular, some of the techniques we'll make use of are

- Calculus: constrained and unconstrained optimisation.

- Probability and statistical theory.

If it's been a while or if you're low in confidence with math, don't stress! I will dedicate the first lecture to reviewing the mathematical techniques necessary for the course. In addition, you'll have tons of opportunities to practice these techniques in exercise sets and tutorials. If you understand the math in lecture notes and exercise sets, you have sufficient mathematical background to perform in this module.

Empirical Techniques

There will be two lectures dedicated to empirical methods: the first reviews basic regression methods that you have seen in previous classes. The second, towards the end of semester, will review factor methods in asset pricing.

Exercise Sets

Each set of lecture notes will be accompanied by an exercise set and solutions. The purpose of these sets is to give you practice for the assessment of the module and help your understanding of the material. **I will not grade these exercise sets** and you can view them as being optional or non-compulsory with regard to your final grade. They are there to help you in testing your understanding of the material.

Assessment

The assessment is comprised of:

- Coursework: 25%,

- Take home exam at the end of semester: 75%.

The coursework is done in groups and divided between two tasks

(i) Empirical project: a short research report on a topic of your group's choosing (see below),

(ii) An essay task.

I will take **the highest** score from the two tasks your group submit from (i) and (ii) as your overall coursework score (out of 25%).

Coursework: Empirical Project

You will complete two empirical projects throughout the semester. These are designed to give you a taste of what research is about and to introduce you to some readily accessible datasets that you could potentially use for your dissertation. You should complete these empirical projects in **groups of 3 or 4**; one writeup should be handed-in for each group. I'll circulate a Google spreadsheet to record the names of members of your group. Please form groups and record them, (or email me if you need to be allocated to one), **by the end of the second week of lectures**.

For each project, I'll direct you towards a particular dataset and the rest is basically over to you. As a group, I want you to think-up an interesting research question, devise a strategy for answering it, make an attempt at answering it econometrically and then record and discuss your results.

Your writeup should be of the form

(1) Abstract,

(2) Introduction (should mention other papers in the literature that are related),

(3) Methodology (what regressions will you run and why, what are your hypotheses and why?),

(4) Results (regression results, discussion of results).

(5) Conclusion (what are the implications of your findings; potential future extensions?),

(6) Appendix (if necessary; no need to include this in your page count).

and **should not exceed** ten pages in total. There is no minimum length, so use your best judgement. You will be graded along the following dimensions

- Creativity of the research question,

- Suitability and correct application of methods,

- Knowledge of related literature,

- Quality of results and discussion.

Feel free to attend my office hours or send me emails to **discuss** research questions or ask about methods. If you're unclear or unsure about anything, please contact me. As said above, I'll direct you towards the primary dataset to be utilised in these projects. You are welcome to augment these data with additional sources, but be sure to detail what they are, where they come from and why you need them. You **must use** the dataset I direct you towards as the primary source.

Free-Riding in Coursework Groups

At the conclusion of semester, I'll send-out a survey to each group to evaluate each member's effort in the coursework described above. People who are consistently flagged by their group members as free-riders will have their coursework scores **adjusted downwards**. Don't free-ride, people!

References

There is no specific reference for this course, given its broad scope. The lecture notes are the primary source of study material. Students with particular interest in certain topics can contact me for more materials.

Tutorials

There will be two tutorials in person. The first (week 3) will give a background to the statistical analysis you'll need for your coursework projects. The second (week 11) will be a revision class for the exam. Both of these will be led by the T.A. Check your module timetable for the dates. There will also be two online tutorials that go through practice problems again designed to help with the exam.

Lecture schedule

Lecture	Topic	Sub-Topic
1	Introduction	Mathematical methods
2		Empirical methods I: regressions and endogeneity
3	Corporate Finance	Theory I: Modigliani & Miller capital structure theorem
4		Theory II: capital market imperfections
5		Theory III: debt tax shields
6		Theory IV: bankruptcy costs
7		Theory V: agency frictions
8		Theory VI: information asymmetry
9		Empirical literature: evidence on financial frictions
10	Asset pricing	Theory I: consumption-based asset pricing
11		Theory II: portfolio choice
12		Theory III: equilibrium asset pricing
13		Theory IV: asset price bubbles
14		Empirical methods II: factor models
15		Empirical literature: equity premium puzzle
16	Revision	Revision