L13601 Advanced Financial Economics

The University of Nottingham

2019

Instructor

- Adam Hal Spencer (Assistant Professor of Economics).
- Office hours: Tuesday (17:00–18:00), Thursday (16:00–17:00) and by appointment.
- Office: B37 Sir Clive Granger Building [office hours held here].
- Email: Adam.Spencer@nottingham.ac.uk.
- Skype ID: adamhalspencer.

Teaching Assistant

- Rachel Cho (Ph.D. student in Economics).
- Email: lexrc7@exmail.nottingham.ac.uk.

Meetings and dates

- **Class dates**: lectures over week 2–week 12; tutorials TBA.
- **Class days/times**: Tuesday (15:00–17:00) and Thursday (11:00–12:00).
- **Exams**: TBA.

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). If you can't make office hours, we can make an appointment for an alternative time or have a discussion over Skype (my ID is given above).

Course description

This model gives students a rigorous introduction to the field of financial economics. The course is split into four main topics: corporate finance, asset pricing, financial intermediation and macro-finance. Each section starts with theoretical foundations then moves towards detailing empirical and structural evidence from research. Each topic is concluded with a perspectives class, which aims to bridge the gap between technical concepts learned in class and more general qualitative economic intuition.

Mathematics

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.
- Basic probability and statistical theory.
- Basic game theory.

If it's been a while or if you're low in confidence with math, don't stress! I will dedicate a lecture to reviewing the mathematical techniques necessary for the course (L1). 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.

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 and I highly recommend solving them all as they are a strong indicator of the type of problems I will ask you in the exam.

Assessment

The assessment is comprised of:

- Coursework: two empirical projects due during semester (see below): 25%,
- Final exam at the end of semester: 75%.

Coursework: Empirical Projects

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 stop-by my office hours or send me emails to **discuss** research questions or ask about methods. Your writeups are to be handed-in at the start of class on the specific due dates (see schedule below). 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. You can use any software package for the statistical analysis, I'd strongly recommend learning Stata though.

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!

Perspectives Classes and Participation Bonus Points

Throughout semester, there will be two special classes that I'll refer to as *perspectives* classes. These classes are designed to be more of a discussion session rather than a standard lecture. Each of these will revolve around a simulation similar to that of a case study. I'll give you a topic to think about and we'll walk through a series of questions designed to get you thinking about the intuition associated with the given topic.

In each of these classes, you'll work in pairs with the person sitting next to you to come-up with responses to the questions. We'll then discuss them as a class. I want you to participate **actively** in these classes. To give incentive for you to do so, I'll give **bonus points** to students who participate

a lot. After each perspectives class, I'll have you record the number of *participation points* you receive into a Google spreadsheet [no names, just student numbers and number of points]. You receive one participation point for each time you speak-out in one of these perspectives classes.

At the end of semester, students who fall into the **top 20%** of aggregated participation points will have their coursework score (worth 25% final grade: see above) scaled by a **factor of 1.3** subject to an upper-bound of 25. For example, if you scored 15/25 prior to scaling, your after-scaling score will be 19.5/25. If you scored 24/25 prior to scaling, your after-scaling score will be 25/25.

To re-iterate, this is a carrot rather than stick approach on my part. If your aggregate participation score is zero at the end of semester, you **will not** be punished in any way, shape or form. Only students with aggregate participation scores in the top 20% of students will receive these bonus points.

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 tutorials held throughout semester, (to be led by a teaching assistant). These tutorials are to help you prepare for the exam. You'll go through problems with the T.A. to help your understanding.

Lecture Setup

We have a two hour and a one hour lecture each week. Between the first and second hour of the two hour class, we'll take a brief break. I'll treat the two hour lecture as **two separate lectures**.

Tentative Lecture schedule (Oct 31 Update)

Class	Date	Topic	Sub-Topic	Due
1	01/Oct	Introduction	Mathematical Methods and Introduction	
1	01/Oct	Corporate Finance	Theory I: Capital Structure irrelevance theory: MM	
2	03/Oct		Theory I: Capital Structure irrelevance theory: MM	
3	08/Oct		Theory III: Debt tax shields	
3	08/Oct		Theory IV: Bankruptcy costs	
4	10/Oct		Theory V Agency frictions	
5	15/Oct		Theory II: Capital market incompleteness and imperfections	
5	15/Oct		Theory II: Capital market incompleteness and imperfections	
6	17/Oct		Theory VI: Information asymmetry	
7	22/Oct		Empirical methods I: the problem of endogeneity	
7	22/Oct		Empirical methods II: potential fixes to endogeneity	
8	24/Oct		Empirical literature: evidence of financial frictions	
9	29/Oct	Perspectives	Perspectives I	
9	29/Oct	Perspectives	Perspectives I	
10	31/Oct	Corporate Finance	Recap of empirical methods	
11	05/Nov	Asset Pricing	Theory I: Consumption-based asset pricing	
11	05/Nov		Theory I: Consumption-based asset pricing	
12	07/Nov		Theory II: Portfolio choice	
13	12/Nov		Theory II: Portfolio choice	EP1
13	12/Nov		Theory III: Asset price bubbles	
14	14/Nov		Theory IV: equilibrium asset pricing	
15	19/Nov		Theory IV: equilibrium asset pricing	
15	19/Nov		Empirical Methods: factor models	
16	21/Nov		Empirical literature: equity premium puzzle	
17	26/Nov		Empirical literature: equity premium puzzle	
17	26/Nov	Financial Intermediation	Bank runs	
18	28/Nov		Bank runs	
19	03/Dec	Perspectives	Perspectives II	
19	03/Dec	Perspectives	Perspectives II	
20	05/Dec	Revision	Revision class I: quantitative problems	
21	10/Dec	N/A	No class	
21	10/Dec	N/A	No class	
22	12/Dec	Revision	Revision class II: essay questions	CW2