

DISCIPLINA / COURSE: **Econometrics for Finance**
 DEPARTAMENTO / DEPARTMENT: **ACCOUNTING AND FINANCE (CFC)**
 CURSO / PROGRAM: **CMCD AE**
 SEMESTRE E ANO / SEMESTER AND YEAR: **2nd semestre / 2020**
 CARGA HORÁRIA / CLASS-HOURS: 30 horas ou 15 horas (selecionar)
 PROFESSOR: **Rafael Schiozer**
 LÍNGUA / LANGUAGE: **English**

COURSE DESCRIPTION

This course provides students with working knowledge of econometrical methods for finance research, with a focus on causal identification. This is accomplished by covering several methods commonly employed in empirical research in business and finance. The course is more directed to end users of econometric tools, teaching students how to properly use the tools, and less focused on deriving econometric properties. The course does not cover time series econometrics.

I expect that students will be better prepared to do (especially empirical) research in corporate finance and banking topics after taking this course. I also expect students to develop their critical thinking and learn to make academic presentations in a professional manner, which is fundamental to researchers.

Non-finance students are welcome to this course. They can benefit from taking this course because, even though most of the applications and readings are finance-related, the tools you will learn can be used in virtually any area.

Limitations: Time limitations impose certain restrictions on what we can accomplish in this course. For example, we will not cover all of the methods you might need or should know. We also will not cover each method in excruciating detail.

LEARNING GOALS

Os objetivos de aprendizagem da disciplina estão apresentados na tabela abaixo, demonstrando como os mesmos contribuem para os objetivos do CMCDAE.

The course learning goals are presented in the table below, showing how they contribute to the learning goals related to the objectives of CMCDAE.

GRAU DE CONTRIBUIÇÃO / LEVEL OF CONTRIBUTION *			
Forte / High	Intermediário / Medium	Reduzido / Low	Nenhum / None
●●●	●●○	●○○	○○○

Objetivos do CMCDAE CMCDAE Objectives	Objetivos da disciplina Course learning goals	Grau de contribuição / Level of Contribution *
Métodos qualitativos de pesquisa Qualitative research methods	none	○○○
Métodos quantitativos de pesquisa Quantitative research methods	The entire course is about quantitative methods.	●●●
Conhecimento do tema de pesquisa / teoria Knowledge of research themes and theory	none	○○○
Procedimentos de pesquisa Research procedures	All the assignments involve working with real data, and include many types of data management and data analysis.	●●●
Relevância e inovação em pesquisa	none	○○○

Relevance and innovation in research		
Elaboração de artigos Development of academic papers	All the methods are applied to testing hypotheses, which derive from Finance theory. The final assignment will be the writing of the results section of an empirical paper.	●○○
Outros objetivos da disciplina / Other course learning goals:.....		

A descrição completa dos objetivos de aprendizagem do CMCDAE e outras informações podem ser encontradas em <https://rebrand.ly/cmae-eaesp> (mestrado) e <https://rebrand.ly/cdae-eaesp> (doutorado).

The full description of the CMCDAE objectives, and other related information, may be found at <https://rebrand.ly/cmae-eaesp> (masters) e <https://rebrand.ly/cdae-eaesp> (doctorate).

PREVIOUS KNOWLEDGE REQUIRED, IF APPLICABLE

The course does not have any formal pre-requisites. However, I expect you to have good knowledge of Statistics and undergraduate-level Econometrics. I will assume that you have a good working knowledge on:

- Hypothesis testing;
- Notions of single and multiple regression analysis; basic knowledge of panel data econometrics may be useful, but is not mandatory, as we will cover panel data in our course;

If you are not familiar with these concepts, **I highly recommend that you study on your own and/or take an online course in Statistics** previously to taking this course. A very good one is a course by Prof. Philip Stark, available here: <http://www.stat.berkeley.edu/~stark/SticiGui/index.htm>

Your knowledge in Corporate Finance is also helpful, but not mandatory.

CONTENT/METHODOLOGY

I will teach from slides, which I will make available to you before each class on Eclass. I will be drawing from a variety of sources including various textbooks, journal articles, working papers, and other professors' lecture notes.

There is no single required "textbook," but I will mostly follow the sequence of Angrist & Pischke's book (Wooldridge's book provides the theoretical background if you are interested in econometric theory). I make note of the appropriate references for each lecture on the exhibit below, where I show the relevant methodology readings for each lecture. Students are expected to read these prior to the lecture.

Additionally, most lectures will contain student presentations of papers related to the previous week's lecture topic. A list of papers to be presented is given below.

Each session will cover 2 or 3 papers. **All the students must read all the papers for each session.** I will assign each student their papers in the first week. The student must present the **discussion** of the assigned paper in a ~15 minute PowerPoint presentation, and the presentations will be followed by in-class discussion. The purpose of the assignment is twofold: (1) Presentations are one key way people in academia will come to know (and assess) you. So, it's a good idea to get some practice now. And (2), this will help you think critically about the papers. To ensure participation following each discussion, each student must also type up one concern he/she had about each of the papers their group did NOT present and **hand these in at the start of class** (I call these half-page handouts). The comments should be very short [2-3 sentences] and designed to do one of two things: (a) isolate what you thought the biggest problem of the paper was, or (b) identify a concern you think the presenting group might overlook. I may cold call students to answer a specific question about the paper.

Important: Students are not supposed to **present** the papers they are assigned to. They must **discuss** them.

Guidelines for a good discussion (you do not have to strictly follow this order, but it may help you in preparing your presentation):

- Briefly describe what the paper does and what it finds;
- Make your point about the assumptions and/or identification strategy;
- Suggest improvements;
- Identify eventual gaps or defects. Be critical. You may use your own judgement or the literature that followed in the subject. In this case, make explicit mention to the papers you are referring to.
- Try not to be too picky about minor defects. Try to find fundamental flaws in the identification strategy and/or in the interpretation of the results.

The first meeting will be lecture-only. From the 2nd meeting on, we will have approximately 2 hours of lecture followed by a 15 minute break and around 1h20min of presentations and discussion. Two of our sessions will start with 30 minute quizzes (see below).

ASSESSMENT

Presentation / discussion of papers:	15%
Half-page handouts:	10%
Stata exercises:	20%
Quizzes:	20%
Final Exam:	35%

REFERENCES

Books and methodological papers

Mandatory readings:

Angrist, Joshua D., and Jorn-Steffen Pischke, 2009, *Mostly Harmless Econometrics*, Princeton University Press, New Jersey. **[AP]**

Roberts, Michael R., and Toni M. Whited, 2011, "Endogeneity in Empirical Corporate Finance," *Handbook of the Economics of Finance*, vol. 2, <http://ssrn.com/abstract=1748604> **[R&W]**

Bertrand, M., E. Duflo, and S. Mullainathan. 2004. How Much Should We Trust Differences-in Differences Estimates? *Quarterly Journal of Economics* 119:249–75. **[B,D&M]**

Gormley, Todd A., and David A. Matsa, 2014, "Common Errors: How to (and Not to) Control for Unobserved Heterogeneity," *Review of Financial Studies*, 2014.

Non-mandatory readings:

Wooldridge, Jeffrey M., 2010, *Econometric Analysis of Cross-Section and Panel Data*, MIT Press, Massachusetts, Second Edition **[W]**

Cameron, A.C. & Trivedi, P. K., 2010, *Microeconometrics Using Stata*, Stata Press. **[C&T]**

COURSE SCHEDULE

Session	Date	Topics	Readings	Paper Presentations [PP] and assignments due
1	7/Oct	<u>Quick review</u> : OLS Estimation and Inference; Hypothesis testing; Statistical Properties of Regressions; Causality	AP – 3.1.; AP – 3.2; R&W paper, section 2 W – Ch. 2, 3 and 4 C&T – Ch. 3	TBD
-	14/Oct	No class		
2	21/Oct	Causality (cont.) <u>Quick review</u> : panel data <u>QUIZ #1</u>	AP – 3.4; 3.5.; 5.1; 5.3 W – 10.1; 10.2; 10.3;10.5; 10.6; 10.7 C&T – Ch. 8	TBD
3	28/Oct	Other uses of fixed effects Instrumental variables (intr.)	Lecture Notes AP – 4.1; 4.4; 4.6. W – Chapter 5. R&W paper, section 3 C&T – Ch. 6	TBD
4	4/Nov	Instrumental variables (cont.) Natural Experiments	AP – 5.2	TBD
5	11/Nov	Natural Experiments (cont.)	B,D&M Paper R&W paper, section 4	TBD
6	18/Nov	Common mistakes and erros Non-standard standard errors <u>QUIZ #2</u>	G&M paper AP 8.1; 8.2	TBD
7	25/Nov	Non-linear regression models; Other techniques (very brief): matching and RDD	AP 6.1; 6.2 W – 13.1; 13.2; 13.3; 15.1- 15.6; 15-8 C&T – Ch. 14	TBD
8	3/Dec	FINAL EXAM		

PROFESSOR MINI CV

Rafael Schiozer is a Professor of Finance at FGV-EAESP and a CNPq research fellow. He teaches in graduate and undergraduate programs and supervises MSc and PhD students. His research focuses on financial stability, banking, risks and financial crises and has been published in journals such as the Review of Finance, Journal of Corporate Finance, Journal of Financial Stability and Journal of Banking and Finance. He holds a BA in Business from the University of São Paulo (1999), a MSc in Petroleum Engineering from the State University of Campinas (2002) and a PhD in Business (Finance) from Fundação Getulio Vargas (2006). Rafael was a visiting professor at Copenhagen Business School in 2016/17, and a visiting scholar at the Wharton School of Business – University of Pennsylvania (2013/2014) and the University of Illinois at Urbana-Champaign (2009). He is a subject editor of the Emerging Markets Review and the Journal of Multinational Financial Management, and a member of the editorial board of Estudos Econômicos. He has refereed for journals such as the Journal of Financial Intermediation, Review of Finance, Journal of Corporate Finance, Journal of Financial Stability, Emerging Markets Finance and Trade and the International Journal of Business and Economics, among others.