Causality Analysis in Finance

MSc Finance Program

Semester II. 2022/2023 (April 2023 – June 2023)

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Class locations/Time	Lectures: Tue/Thu, 17:20, Rm C. VIII, Tutorials: Wed/Fri, 8:00, Rm S.0.025
Contact (E-mail)	Preferred communication is via email or on Moodle. Students should post all course related questions 😮 on the designated Q&A forum online to facilitate learning from each other (for online posts students can earn class participation credit, especially for those answering others' question).
Communication	Students are expected to check Moodle regularly for announcements. Email alerts may also be sent regularly, please make sure you regularly check your Corvinus University email. Please note email sent from non-CUB email address may not be answered, block by spam filter.
Consultation	Consultations (TBA on Moodle) are in room 277 and via MsTeams to ensure everybody can participate and facilitate learning from each other queries.

Course description : Advanced Applied Empirical Finance course, covering:

- Panel Data structure, efficient data management,
- Instrumental Variable (IV) choices and application,
- Omitted variable bias (OVB) issues,
- Regression discontinuity (RD),
- Difference in differences (Diff-in-Difff) analysis,
- Intervention, treatment design with clear target groups,
- Individual and average treatment effects (ITE, ATE).

Expected skills: At the end of the course students should be able to :

- Efficiently work with panel data and design experiments,
- Identify and address data quality issues,
- Identify and address endogeneity issues,
- Able to make unbiased inference, recognize limitations of experiments.

Course textbooks: Data Analysis for Business, Economics, and Policy, by Gábor Békés, Gábor Kézdi, Digital ISBN: 9781108591102, https://www.amazon.com/Data-Analysis-Business-Economics-Policy/dp/1108716202

Course Participation Students are advised that class participation is measured based on both quantity and quality, in class and online (on Moodle).

Course Assessment: There will be two short quizzes and a test, and a data analytics group project (3 person teams, can arrange yourself, submit info via Moodle). A final grade is "pre-offered" based on the in-class quizzes, test, and project submission. Students, not accepting offered grade, are permitted to take official final examination during the university exam period. The written exam, with

schedule to be posted near at the end of the term, is structured with an entrance quiz where failing the entrance quiz results in failing the course.

Assessment

Class participation (attendance mandatory)*	0-5pts
Quizzes and/or cases (2 short quiz +1 case)	50 pts
Final written exam (or Examination)	50 pts
Total	105 pts

Class Arrangement Classes to be delivered F2F unless the University calls for hybrid or remote teaching. Students who are not able to join the F2F class due quarantine or other emergency reason expected to file necessary documentation with the university and submit copies to the lecturers (via email).

Tentative class schedule (subject to change)

Week	Topics	*Book Chp.*	*Date*
1	Introduction to panel data Introduction to endogeneity, causes and consequences	19	Apr 17-21
2	Experimental Design, Random Controlled experiment *Quiz1 (10 pt)*	20&21.9	Apr 24-28
3	Instrumental Variables, Regression discontinuity	21	May 1-5
4	Matching, costs and benefits , *Quiz 2 (10 pt)*	21	May 8-12
5	Difference and difference estimators, panel intro	22	May 15-19
6	Panel regressions, Errors 1 and 2, assumptions **Final project submission (30 pts), group project 3pp*	23&24	*May 22-26*
7	Review, and in class TEST during last week. (see course assessment for details)	23&24	May 29- Jun 2

* https://www.uni-corvinus.hu/contents/uploads/2022/10/2022-2023_EN%20general%20schedule%2020221025.636.pdf

ACADEMIC HONESTY & PLAGIARISM

Academic integrity is essential for the pursuit and acquisition of knowledge. The Corvinus University of Budapest (and the lecturers of this module) expect every student to uphold academic integrity and honesty. Academic dishonesty is any misrepresentation with the intent to deceive, or failure to acknowledge source(s), or falsification of information, or inaccuracy of statements, or cheating at examinations/tests, or inappropriate use of resources. Academic dishonesty can be also attributed to passive bystander attitude where a student willingly facilitates or let other students engage in copying, distribution of unauthorized materials. If students are in doubt what materials are permitted to be used, they can always contact lecturers for clarification. Students should also note that in this course the use of ChatGPT is not permitted for examination, although it may be useful for python programming for homeworks. Note: to be able to effectively apply AI students should need to well understand the problem, and therefore nor ChatGPT or any other external aid (other AI, friend, contact) cannot be used at tests and quizzes.

* Mandatory attendance means that if the student is missing classes without valid official reason (see CUB guidelines), the student may fail the course even if he/she passes all other components.