

ECON 469

Econometrics 2 - Honours

Department of Economics
McGill University
Winter 2025

Instructor: Sílvia Gonçalves

Email: silvia.goncalves@mcgill.ca

Office hours: Friday, 10am-11.30am.

Regular classes: Wednesday and Friday 8.35am-9.55am.

Course Overview and Learning Outcomes

This class is a continuation of ECON 468. The first part of the class deals with linear regression models for two types of data structures that deviate from the classical cross section regressions (which are the focus of ECON 468): time series regressions and panel regression models. The second part of this course focuses on IV/GMM methods for general linear and nonlinear models.

Course Materials

The lectures will be based on material from the following textbooks. Presentation slides will be made available to students after each topic and I will provide more precise references as we go along.

“Introductory Econometrics: a Modern Approach”, by Jeffrey Wooldridge

“Econometric Theory and Methods, by Russell Davidson and James MacKinnon

Course Content

1. Time series regressions
 - (a) Static and finite distributed lag models
 - (b) Finite sample and asymptotic properties of OLS
 - (c) HAC standard errors
 - (d) Unit root processes
 - (e) Forecasting
2. Panel regressions
 - (a) Pooled regressions
 - (b) First differences estimator
 - (c) Fixed effects estimator
 - (d) Random effects estimator
3. Generalized method of moments
 - (a) Overidentified linear model
 - (b) Asymptotic distribution of GMM in linear model
 - (c) GMM: the general case

Grading: The final grade will be based on:

- **Two homeworks (25%).** These will be available on MyCourses in due time. Only a random subset of the questions will be graded by the TA.

Expectations: Students are not only required but also strongly encouraged to answer all the questions in each problem set. The problem sets contain several questions from previous years' exams and are therefore a good practice for the midterm and the final exam. They may also contain empirical exercises that require the use of Stata.

Each student must write her/his own answers. An answer key will be provided in MyCourses, to further help students align with the expectations. The answers to the problem sets are to be submitted via myCourses, and students are responsible for ensuring that the submitted document is legible.

Late submission policy: students will incur a penalty of 5 points out of 100 per hour after the deadline (deduction of 5 points if you submit up to 1 hour late, 10 points if you submit up to 2 hours late, and so on until 0).

Use of Generative AI in Assignments: Students may use artificial intelligence tools, including generative AI, in this course as learning aids or to help produce assignments. However, students are ultimately accountable for the work they submit.

Elements Evaluated: Students will have a chance to practice and apply the course material to specific problems, including implementing the concepts and the tools covered in class. Students will also apply the course material to new situations, including empirical questions. This will test whether the students understand well the class material, with sufficient maturity and depth.

- **One midterm exam (30%)**, on Friday, **February 28**, during regular class time, based upon the material covered until then. This exam is mandatory.

If you miss the midterm for any reason (e.g., illness, technical, religious, work obligation, exam scheduling conflict, etc.), the weight is shifted automatically to the final. There is no makeup, alternate or deferred midterm under any circumstances, nor may the exam be written early.

- **Final exam (45%)**, covering all the material. This exam is also mandatory. It will be a 3-hour exam and will take place in April, at the date specified by McGill.

If you miss, or cannot write, the final, you must request a deferred exam according to the process described here (www.mcgill.ca/exams/dates/supdefer). Final exam accommodations are almost never approved for reasons relating to personal vacation/travel or family events.

Expectations: Students are required to answer all the questions in each exam. Each exam will feature some questions which are straight from class, others that require filling in the gaps of arguments discussed in class, and yet others which require applying the concepts and tools to new situations. Since the problem sets contain several questions from past years' exams, students should be able to have a clear understanding of what the expectations for the exams are. An answer key to the midterm will be provided in MyCourses, to further help students align with the expectations.

Elements Evaluated: The exams will test whether the students understand well the class material, with sufficient maturity and depth.

McGill Policy Statements

- *Language of Submission:* In accord with McGill University's Charter of Students' Rights, students in this course have the right to submit in English or in French any written work that is to be graded.

En français: Conformément à la Charte des droits de l'étudiant de l'Université McGill, chaque étudiant a le droit de soumettre en français ou en anglais tout travail écrit devant être noté (sauf dans le cas des cours dont l'un des objets est la maîtrise d'une langue).

- *Academic Integrity:* McGill University values academic integrity. Therefore, all students must understand the meaning and consequences of cheating, plagiarism and other academic offences under the Code of Student Conduct and Disciplinary Procedures (see <http://www.mcgill.ca/integrity> for more information).

En français: L'université McGill attache une haute importance à l'honnêteté académique. Il incombe par conséquent à tous les étudiants de comprendre ce que l'on entend par tricherie, plagiat et autres infractions académiques, ainsi que les conséquences que peuvent avoir de telles actions, selon le Code de conduite de l'étudiant et des procédures disciplinaires.

- *Copyright:* Instructor-generated course materials (e.g., handouts, notes, summaries, exam questions, etc.) are protected by law and may not be copied or distributed in any form or in any medium without explicit permission of the instructor. Note that infringements of copyright can be subject to follow up by the University under the Code of Student Conduct and Disciplinary Procedures.
- *Disabilities:* If you have a disability, please contact the instructor to arrange a time to discuss your situation. It would be helpful if you contact the Office for Students with Disabilities at 514-398-6009 before you do this.
- *Plagiarism:* Plagiarism is a serious academic offence. Please consult and read carefully McGill's Academic Integrity website at <http://www.mcgill.ca/integrity/studentguide/>. If you have any questions or uncertainties about what constitutes plagiarism, there are many resources at the University that can help you, including me.
- *Final Exams:* According to Senate regulations, instructors are not permitted to make special arrangements for final exams. Please consult the Calendar, section 4.7.2.1, General University Information and Regulations at www.mcgill.ca.
- *Other:* Additional policies governing academic issues which affect students can be found in the McGill Charter of Students' Rights (see <http://www.mcgill.ca/students/srr/>).