Economics 104: Econometrics Applied to Macroeconomics and Finance

Economics 104 covers the use of econometric methods to investigate scientific and policy issues in economics. Economics 51, 52, and 102B are strict prerequisites—not only must you have taken those courses, but you must have a good current knowledge of their subjects. If you are planning to do a project involving finance, you must have taken Economics 140 as well.

The course is intended to be useful to students with interests in any branch of applied economics, with particular emphasis on macroeconomics and finance. Note that economics 104 is essentially the same course as economics 103, but with an emphasis on macroeconomics and finance, relative to the other branches of applied microeconomics.

An important part of the course is an independent research project. You will choose a topic, locate data, apply econometric methods, and present your findings in a paper and to the class.

The class will meet Mondays and Wednesdays in Encina W108 from 9 to 10:50. There will be no class on January 4 (American Economic Association meetings) or on January 18 (MLK Day). From late January through about the end of February, the class will not meet as a group, but you will meet with me individually to get advice on your project.

Textbooks and other materials

You should have a copy of an econometrics textbook at the 102B level, such as James Stock and Mark Watson, Introduction to Econometrics

I will distribute handouts and they will also be available on Coursework.

Computers and software

You will need to be able to use a computer with appropriate software to do the problem sets and the project. You may use any computer together with software known to give reliable results in econometric methods. The software must be capable of estimating by instrumental variables, the method emphasized in the course. Software such as TSP, EViews, Stata, R, or SAS, is fine.

Problem sets

We will have a couple of weekly problem sets at the outset. These will sharpen your skills in economic theory, econometrics, and using the computer. Late problem sets will be marked down 1 grade point per day (on a scale of 4). You may collaborate on problem sets, but you must turn in your own individual write-up of the results, done separately from your collaborators.

Initial presentation

You will give a brief presentation in class in mid-January on an assigned econometric exercise, estimating and interpreting response of stock prices to an event of your choosing.
Research project

The main focus of the course will be your research project. You may work by yourself or in groups as large as three students. The essence of a good project is finding an interesting hypothesis to investigate and a body of data that will enable you to make that investigation. The projects we study in class will provide some examples.

An excellent project is to start with a professional research publication—either one discussed in class or one published in a journal or book—and apply the idea to a body of data. Replication of an existing study is acceptable, but some extension would be even better—to a new industry, new specification, or new body of data. You project does not have to be based on an original research idea (but if it is, all the better). If you are working on a thesis, you are definitely encouraged to use your thesis as your project.

Your project must focus on a scientific question; it cannot be merely descriptive. An example of a scientific question is: By how much does GDP rise when there is an exogenous increase in government purchases of goods and services? The scientific question can have a clear policy application—for example, what is the effect of the minimum wage on teenage employment?

Starting around the third week of the quarter, I will meet with individuals or groups to develop and guide your projects. We will have presentations in class of projects at the end of the quarter. The project is due in the my office on Friday, March 12, at 2 pm. Late projects will be marked down at a rate of 0.3 grade points per day (on a scale of 4). If you fall behind, turn in your best incomplete effort. Better, get to work sooner.

If you work in a group, you will be responsible for the free riding of other group members. Grading will set a higher standard for a larger group. Nonetheless, work in groups is encouraged and has generally worked well in 103 and 104 in the past.

Course grade

The grade will be based 20 percent on the problem sets, 20 percent on the initial presentation, and 60 percent on the project and class participation.

Economics common syllabus

This course operates under all the provisions of the economics common syllabus.

Students with documented disabilities

Students, who have a physical, psychological, or learning disability, that may necessitate an academic accommodation or the use of auxiliary aids and services in a class must initiate the request with the Student Disability Resource Center (SDRC), not with the instructor. The SDRC will evaluate the request along with the required documentation, recommend appropriate accommodations, and prepare a verification letter dated in the current academic term in which the request is being made. Students should contact the SDRC in the first week of the quarter as timely notice is needed to arrange for appropriate accommodations. The SDRC is located at 563 Salvatierra Walk. Also see http://www.stanford.edu/group/OAE/