Syllabus: Econ 3720
Spring 2019

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Prerequisites

The prerequisite for this class is STAT 2120, APMA 3110, STAT 3120, or the equivalent. Although completing one of these classes with a grade of C+ or above is not formally a prerequisite for Econ 3720, a minimum grade of C+ in one of these introductory courses is a requirement for the Econ major. If you are planning to major in Economics but need to retake the introductory course in order to achieve a C+, I strongly urge you to complete the retake before attempting Econometrics. A strong knowledge of introductory statistics is very helpful in Econometrics.

A Note on the Recitation Sections

In some classes, recitation sections are little more than glorified office hours. That is not the case in ECON 3720. Recitation sections are designed to give you experience using Stata in a small group setting where you can work examples and receive help immediately when you encounter

difficulties. The aim of ECON 3720 is to prepare you to actually do empirical analysis on your own and intelligently interpret the work of others, and the hands-on experience gained in the recitation sections is an integral part of that training.

Textbook

The required text is *Using Econometrics, A Practical Approach, 7th Edition*, by A.H. Studenmund. There are additional readings, which will be made available as pdf files though Collab, under Resources. These additional readings are *required* and *very important*.

The textbook has a companion web site which has data sets and other supplemental material. Click here to visit the web site.

Software

Because this is a course in applied econometrics, we will make intensive use of STATA, a powerful statistical software package. STATA 15 is the most recent release. Because many handouts were composed using earlier versions of STATA, you may find small differences between the screen shots in the handouts and what you will see on your own computer. STATA is a very expensive piece of software, and neither UVA students nor faculty have access to free copies to install on their own computers. The University, however, does make it available at a healthy discount. You can rent a copy of "Stata/IC" (the version in the labs) to use for six months on your Windows/Mac/Unix computer for $45.00. Longer rentals and purchases are also possible. For further information on acquiring STATA at a student discount visit this web site:

http://www.stata.com/order/new/edu/gradplans/student-pricing/

The University has a site licence for 45 simultaneous STATA users, and it is available in computer labs around grounds. However, because researchers across the entire University are using these licensed copies in their research, the University strongly discourages us from using their licenses for instructional purposes. The potential for my 120+ registered Econ 3720 students to exhaust all 45 University licenses is obvious. I am therefore insisting that you rent a personal copy of Stata for your laptop. I should mention that portions of the exams will use Stata, another reason you will need a copy. Given how little you will pay for the textbook, $45 for a Stata license does not seem too burdensome. Because not everyone will acquire Stata in the first week, we will, however, use Stata licenses in the first recitation sections in order to get started.

Grading

I-clickers

I plan to use clickers in class. Most of you should be familiar with clickers from the large sections of Econ 2010 and Econ 2020, and many already have an clicker. If you don't have one, you can get one at the bookstore. To grade you on class participation I will ask some multiple choice questions during class that you will answer using your clickers. Your grade on the clicker questions will count as 5% of your overall grade. Students will be expected to submit their own

answers to clicker questions and not collaborate with other students in deciding on their answers. If you have your book or notes open when these questions are posed, you're permitted to glance over these materials in deciding on your answer. However, to avoid a prolonged interruption of the class, you are not to consult materials you didn't already have open on the desk when the question was asked. Because clicker questions are such a small fraction of the grade, there will be no excused absences for clicker grades.

Midterm

There will be an in-class midterm that will count for 25% of your grade.

The final exam will be administered in two parts. One part, which is 25% of the grade, will be a traditional final exam similar in format to the midterm.

Homework

There will be eleven homework assignments over the course of the semester. The first assignment will be done individually, but the rest will be group assignments.

Because the assignments are going to be challenging to do and difficult to grade, I am going to have you form study groups, with each study group turning in one copy of each assignment (with the exception of the first assignment, which will be short and easy). To guarantee that this does not confer an unfair advantage or disadvantage on individuals, I plan to randomly assign students to study groups and reshuffle the study groups twice during the semester. Each study group will consist of about four students. I say "about" because the number of students in the class isn't likely to be evenly divisible by four. All students are expected to aid in the preparation of the study group's answers. To limit free riding, I will require each student to upload their contribution to group assignments a couple days before the group assignment is due. The draft should consist of at least 70 percent of the assignment, and it must be *the student's own work*. If a student submits the required rough draft, the grade assigned will be a group grade based on the assignment submitted by the group. However, if a student fails to submit a draft or if a student submits a draft that does not make a good faith effort to answer the required percentage of the questions weighed by point value, that student will receive a lower grade. The grade will be zero if there is no submission or if less than 60% of the lab has been done. If 60% to 69% of the lab has been completed, the student will receive 75% of whatever grade his or her group obtains on their group work.

I have discovered that these homework rough drafts will prove problematic for some students. Some submit the wrong file; some tell me Collab refused to accept their submission; some cut corners and only provide partial answers to a section, only to have the graders deny them credit for that section, pushing their percentage completed below 70%; some fail to pay careful attention to due dates and discover too late that they have missed one. Submitting homework rough drafts in a timely fashion is your responsibility, however. *Be sure to submit the correct file on time*. If Collab for some reason will not accept your submission *immediately email your homework to me and to your teaching assistant*; the time stamp on the email will establish that it

was completed on time. For full credit, you must submit the rough draft when it is due. Collab will accept rough drafts up to two hours late, but if you submit a draft during this window, you will receive only three quarters of the grade assigned to your group. If the draft is late and is also only 60-69% completed, you will receive only half the grade assigned to your group. Rough drafts more than two hours late will not be accepted. *The submission deadlines will not be waived*.

Homework is Pledged. When doing the homework, you are permitted to use the text, STATA help files, class notes, and any handouts provided in class. *If there exist STATA do files or STATA log files created by students or instructors in previous semesters, or written answers to the homework questions developed by students or instructors in previous semesters, such as might be found in fraternity files or on the internet, you are not permitted to consult them or use them in any way in preparing rough drafts or final group submissions. When the semester is over, you are not allowed to share your do files, log files, rough drafts or group submissions with later cohorts of students. Consulting or sharing this material will be treated as an honor offense. Neither are you allowed to copy or consult another individual's or study group's homework answers, do files, or log files.* Each individual is expected to individually work each problem he or she submits as part of the rough draft; Each study group is expected to collaborate among themselves to work each problem the group submits in the final draft. The one form of mutual assistance that is permitted is to ask for help in identifying the portions of Collab handouts or Collab videos that explain how to do some particular thing. For example, a question such as: "Where can I find out how to use a log regression to forecast the level of a variable?" could be answered by "It's covered in the Collab handout on Prediction and in the Kaltura video called "Forecasting from logs." Asking or answering questions like this is permitted.

Stata Final

One portion of the final exam will test your knowledge of the Stata commands used throughout the semester. You will be given a data set and 20 questions and instructed to use Stata to find 20 numerical answers to the questions.

Homework/Stata Grade

I intend to compute the geometric mean of your average homework grade and your grade on the Stata final and count that as 45% of your overall course grade. If you are unfamiliar with the geometric mean, it works like this.

$$Homework\ /\ Stata\ grade = \sqrt{(Homework\ grade)(Stata\ grade)}$$

For example, if a student received an average grade of 90 on the homework and a 70 on the Stata final, his or her Homework/Stata grade would be $\sqrt{6300} = 79.4$. As this example illustrates, if the two grades are roughly comparable, the difference between the arithmetic mean and the geometric mean isn't very large – 80 versus 79.4. However, if the two grades are very different, the two measures are appreciably different. Suppose a student received an average grade of 90 on the homework but a 10 on the Stata final. Then the arithmetic average is 50, but the geometric

mean is 30.

Each semester a handful of students manage to get excellent homework grades, yet curiously are unable to answer even a small fraction of the questions on the Stata final. In some cases, that may be because they found a way to cheat on the homework. More commonly, however, I believe it is because some students attempt to aggressively exploit the fact that rough drafts are not graded for correctness, making it possible to throw down ill-considered slapdash answers, while still getting full group points on the homework. Using the geometric mean instead of the arithmetic mean is designed to discourage such behavior.