

Econ 3U03 Econometrics I

Winter 2011

Class Time: Tue 14:30-16:20 and Thu 14:30-15:20

Class Room: ABB/271

Instructor: Shintaro Yamaguchi

Office: KTH 440

e-mail: yamtaro@avenue.cllmcmaster.ca

Office hours: 3:30-4:30, Thursday

Objective

Elaboration of regression techniques developed in ECON 2B03. Problems of inference and interpretation in the analysis of economic data. Introduction to forecasting in economics. The course focuses both on the theoretical concepts underlying the linear regression model and on applications of the theory to estimate linear regression models and perform inference in the linear regression framework (hypothesis testing, confidence interval, prediction interval, etc.).

Prerequisite

This course assumes a familiarity with intermediate micro- and macroeconomics, basic calculus, and basic statistics.

Textbook

The following textbook is necessary for the course:

- *Principles of Econometrics (2007), 3rd Edition* by Hill, Griffiths, and Lim.

Check the companion website: <http://www.principlesofeconometrics.com/>. The data sets that are necessary to answer some of the questions in the assignments can be downloaded from there.

Schedule

- Chapter 2 The Simple Linear Regression Model
- Chapter 3 Interval Estimation and Hypothesis Testing

- Chapter 4 Prediction, Goodness of Fit and Modeling Issues
- Chapter 5 The Multiple Regression Model
- Chapter 6 Further Inference in the Multiple Regression Model
- Chapter 7 Nonlinear Relationships
- Chapter 8 Heteroskedasticity
- Chapter 9 Dynamics Models, Autocorrelation, and Forecasting
- Appendix A Review of Math Essentials
- Appendix B Review of Probability Concepts

COMPUTING:

Majority of the assignments will involve the use of statistical computer softwares including MS-Excel, R, and gretl. You can download R and gretl for free on the Internet. All of Excel, R, and gretl should be available in the undergraduate computing labs in Kenneth Taylor Hall. I will use R in class when I give examples and review assignments. Students are encouraged to use R.

- Download R now from <http://www.r-project.org> and familiarize yourself.
- FAQ for R for this course is posted on Avenue.
- Other useful links
 - <http://www.ats.ucla.edu/stat/r/> : Resources to help you learn and use R.
 - <http://cran.r-project.org/doc/contrib/Farnsworth-EconometricsInR.pdf> : an instruction of how to use R for econometrics. Some topics are beyond the scope of the course, but worth reading.
 - <http://www.jstatsoft.org/v27> : the special volume of *Journal of Statistical Software* on Econometrics in R. The topics covered by the volume are highly advanced and it may be useful when you go to a graduate school or work as a professional analyst.

Avenue to Learn

The course outline, FAQ, information on the assignments, tests, and exam, and announcements will be posted on Avenue: <http://avenue.mcmaster.ca/>. Lecture notes will not be posted. It is your responsibility to check Avenue daily.

Evaluation

There will be six assignments and four mid-term exams. The assignments deadline will be announced on Avenue in due course. The test dates are:

1. 2:30-3:20, February 1st
2. 2:30-3:20, March 8th
3. 2:30-3:20, March 29th

All tests are to be written in **T29/105**, not the regular class room. Each assignment and test will be worth 3% and 14% of your final grade, respectively. Students who do not respect the time limit on an exam will receive a 10% penalty on that exam. There will also be a final exam, worth 40% of your final grade. The final exam will be multiple choice, but will require considerable analytical problem solving. The final exam is scheduled by the Registrar, and missed final exams will be dealt with under the Registrar's rules. Only the approved calculator (Casio FX-991) can be used during exams. McMaster ID must be shown at all exams.

Missed Tests

There will be no make-up exam for a missed mid-term, but students with a valid and verifiable excuse (health or family emergency) for a missed exam will not be penalized. The weights of all remaining items will be raised proportionately; for example, a single missed mid-term will result in your final grade (calculated in the usual manner) to be raised by $100/(100-14)$. In this event you must use the self-reporting tool at www.mcmaster.ca/msaf/.

The information you submit is forwarded to the instructor. This is all you have to do. **Do not contact the instructor or TA to ask for a permission to absent, inform us of your absence, or confirm if we have received your form.** You will not receive a response to these inquiries. If confirmation is necessary, check Avenue. If you find nothing (or a blank cell) for the missed test, you are fine. However, if you find zero marks, you should contact the TA to fix the problem.

Questions About Marking

If you have a question about marking, first check the answers for the test posted on Avenue. **If you still have a question or want to make an appeal for more marks, you must do so in writing.** Submit to the TA a letter that explains your question/appeal and the marked tests.

Email Policy

I strongly encourage you to ask me a question either right after the class or during the office hours rather than by email. If you have to ask a question by email, you must follow the following instructions:

- Send from your McMaster email address to the instructor's Avenue email at [yamtar@avenue.cllmcmaster.ca](mailto:yamtaro@avenue.cllmcmaster.ca)
- Include the word "Econ 2G03" or "Econ 2X03" in the subject,
- Include your name and student number in the main text.

Also check if your question is already answered by the FAQ or News in Avenue, before you send me an email. The questions that are already answered there or do not follow the instructions above will not receive a response.

Effective September 1, 2010, it is the policy of the Faculty of Social Sciences that all e-mail communication sent from students to instructors (including TAs), and from students to staff, must originate from the student's own McMaster University e-mail account. This policy protects confidentiality and confirms the identity of the student. It is the student's responsibility to ensure that communication is sent to the university from a McMaster account. If an instructor becomes aware that a communication has come from an alternate address, the instructor may not reply at his or her discretion.

Email Forwarding in MUGSI: <http://www.mcmaster.ca/uts/support/email/emailforward.html>

*Forwarding will take effect 24-hours after students complete the process at the above link

Academic Dishonesty

Academic dishonesty consists of misrepresentation by deception or by other fraudulent means and can result in serious consequences, e.g. the grade of zero on an assignment, loss of credit with a notation on the transcript (notation reads: "Grade of F assigned for academic dishonesty"), and/or suspension or expulsion from the university.

It is your responsibility to understand what constitutes academic dishonesty. For information on the various kinds of academic dishonesty, please refer to the Academic Integrity Policy, specifically Appendix 3, located at http://www.mcmaster.ca/senate/academic/ac_integrity.htm

The following are two forms of academic dishonesty:

1. Plagiarism, e.g. the submission of work that is not one's own or for which other credit has been obtained. Specifically, with regard to the assignments, you are allowed to discuss with

others the *procedure* that must be used to solve a problem, but you must apply that procedure yourself and write your own answers.

2. Improper collaboration in group work.
3. Copying or using unauthorized aids in tests and examinations.