Economics 7828 - Econometrics
Spring 2011

This proposal is due on Thursday, February 17. You are invited to discuss your ideas with me at any time during the development of your project. One purpose of this proposal is to have you identify your data sources early in the term so that you will not be caught later in the semester with a project that is not feasible for lack of data.

Once we have agreed on a project you should collect the necessary data and proceed with the estimation. In estimating your model there may be several variants you will try (alternative functional forms, differing variable definitions, alternative lag structures, alternative estimation techniques etc.). You will likely encounter various econometric problems or be involved with advanced estimation procedures (panel data methods, logit-probit models, instrumental variables estimation, etc.). An important part of your assignment is dealing with econometric problems (autocorrelation, heteroscedasticity, multicollinearity, etc.) or implementing advanced estimation procedures. In some cases we will not have covered your econometric method before you need to proceed with the estimation, so you will need to read about this topic on your own.The evaluation of your project will reflect, in part, your skill in handling these econometric problems, the sophistication of the analysis, and your interpretation and testing of variants of your basic model.

Readings and Topics

Text:Greene, William H. *Econometric Analysis* Fifth Edition (2003) or Sixth Edition (2008) Prentice Hall.

0. Introduction: some econometrics controversies ["Housing Experiment" and "Cause and Defect"]

I. Classical Linear Regression: least squares estimation, properties of estimators, and simple tests of hypotheses. [5th edition: Chapters 1-4; Chapter 5 (sections 5.1 & 5.2). 6th edition: Chapters 1-4]

II. Tests of general linear restrictions, dummy variables, and functional forms. [5th edition: Chapter 6 (sections 6.1-6.4), chapter 7 (sections 7.1-7.4). 6th edition: chapter 5 (sections 5.1 – 5.4), chapter 6. "Centering in Regression"]

III. Specification error. [5th edition: Chapter 8 (sections 8.1-8.2) 6th edition: chapter 7 (sections 7.1 – 7.2)].

IV. Generalized Linear Model & Heteroscedasticity. [5th edition: Chapters 10 and 11 (sections 11.1 – 11.7). 6th edition: Chapter 8]

Midterm Examination - **March 8**

V. Serial correlation, Time series regression, and non-stationary data. [5th edition: Chapter 12 (sections 12.1 – 12.9), Chapters 19, 20]. 6th edition: Chapter 19 (sections 19.1 – 19.9), chapters 20, 22.

VI. Panel data methods. [5th edition: Chapter 13 (sections 13.1 – 13.4. 6th edition: chapter 9 (sections 9.1 – 9.5).]

VII. Systems of equations: seemingly unrelated regressions and simultaneous equations models. [5th edition: Chapters 14 (sections 14.1 – 14.3) &15. 6th edition: Chapters 10, 12 (sections 12.1 – 12.4) & 13. "Angrist and Kruger on IV estimation"]

Final Examination - May 3 (Tuesday 4:30-7:00)

Important Dates:

- **February 17 - Proposals Due**
- **March 8 - Midterm Exam**
- **April 21 - Projects Due**
- **May 3 (Tuesday 4:30-7:00) - Final Exam**

Syllabus Addendum