

14.382 - Spring 2004  
Professors J. Hausman/V. Chernozhukov

MW 2:30-4:00  
Room E52-151

## **ECONOMETRICS I** **Reading List**

### Texts:

Wooldridge, J. M., Econometric Analysis of Cross Section and Panel Data (MIT Press.)  
Greene, W. H., Econometric Analysis (Prentice Hall, 1999). (Make sure you buy the fifth edition from the COOP.)

### Other Useful References (on reserve at Dewey):

Econometrica, JPE articles: See [www.jstor.org/journals/...](http://www.jstor.org/journals/)

Ruud, P., An Introduction to Classical Econometric Theory (Oxford University Press, 2000).

Hayashi, F., Econometrics (Princeton University Press, 2000).

Peracchi, F., Econometrics (John Wiley and Sons, Ltd., 2001).

Amemiya, T., Advanced Econometrics (Harvard, 1985).

Mood and Graybill, Introduction to the Theory of Statistics (McGraw-Hill, 1974).

Rao, C.R., Linear Statistics Inference (Advanced Statistics of Linear Models).

Griliches, Z. and Intriligator, M., Handbook of Econometrics, Vol. 1-3, (North-Holland, 1983) (Handbook).

Berndt, E.R., The Practice of Econometrics (Addison Wesley, 1991).

Goldberger, A., A Course in Econometrics (Harvard University Press, 1991).

Students should be prepared in linear algebra at the level of 14.102 or equivalent. They should also know mathematical statistics at the level of 14.381 or equivalent (Chapter 1-12 in Mood and Graybill). A good short summary is found in Graybill, Linear Statistical Models, Chapters 1-3. Course requirements include completion of about six problem sets, a midterm, and a final exam. No term paper is required.

1. Introduction: The Methods and Applications of Econometrics (0.5 weeks):

Ruud, pp. 1-2

Handbook, ch. 3

Koopmans, T.C., Three Essays on the State of Economic Science, pp. 197-206

2. Multiple Regression, the Linear Statistical Model, Tests of Hypothesis (3 weeks):

Greene, ch. 2-4, 6-8

Wooldridge, 4.1

Ruud, ch. 6, 8-9, 11, 17.2

Amemiya, ch. 1

Rose, N.L., "Labor Rent Sharing and Regulation," Journal of Political Economy, 1987, pp. 1146-1178

Berndt, ch. 4

3. Large Sample Statistical Theory: Consistency, Asymptotic Normality, and Efficiency (1 week):

Wooldridge, 4.2.1, 4.2.2, ch. 3

Greene, ch. Appendix D, ch. 5.1-5.3, 17.4-17.6

Ruud, 13.4, 15.2-15.5, 17.3

White, H., Asymptotic Theory for Econometricians, Academic Press, 1984, ch. 2; ch 3, 29-36; ch. 4, 61-78; ch. 5, 107-115

Newey, W., "Asymptotic Theory of Least Squares"

4. Heteroskedasticity, Autocorrelation, and Robust Variance Estimation (1 week):

Green, ch. 10.1-10.3, 11.1-11.2, 12.1-12.5

Wooldridge, 4.2.3

Ruud, ch. 18.2-18.4, 19.2-19.5

White, H., "A Heteroskedasticity - Consistent Covariance Matrix Estimator and a Direct Test for Heteroskedasticity," Econometrica, (May, 1980)

Newey, W. and West, K., "A Simple, Positive - Definitive Heteroskedasticity and Autocorrelation Consistent Covariance Matrix," Econometrica, 1987

5. Review and Midterm Exam (1 week)

6. Generalized Least Squares, Heteroskedasticity and Serial Correlation (2 weeks):

Wooldridge, 11.3, 11.4, 12, 13

Greene, ch. 10,11, 12

Ruud, ch. 18.5, 19.6

Amemiya, pp. 181-196, 198-207

7. Nonorthogonality of Regressors and Errors: Correlation Between Regressors and Errors, Errors in Variables, Instrumental Variables and Specification Tests (1.5 weeks).

Wooldridge, 4.3, 4.4, 5, 6.2

Greene, ch. 5.4-5.7, 15.1-15.5

Ruud, ch. 20

Hausman, J., "Specification Tests in Econometrics," Econometrica (1978)

Card, D., "Estimating the Return to Schooling: Progress on Some Persistent Econometric Problems," Econometrica (2001).

Handbook, ch. 23

Griliches, Z., "Estimating the Returns to Schooling: Some Econometric Problems," Econometrica (1977)

8. Panel Data (1 week):

Wooldridge, ch. 10

Greene, ch. 13

Ruud, ch. 24

Hausman, J. and J. Taylor, "Panel Data and Unobservable Individual Effects," Econometrica (1981)

Griliches, Z. and J. Hausman, "Errors in Variables in Panel Data," Journal of Econometrics, (1986)

Amemiya, pp. 207-218

Handbook, ch. 22

9. Nonlinear Specifications, Limited Dependent Variables and Maximum Likelihood Estimation (1.5 weeks):

Wooldridge, ch. 15, 16, 20

Greene, ch. 9, 21, 22

Ruud, ch. 27-28

Amemiya, pp. 127-135, 141-146, 105-127

Hausman, J., "Mismeasured Variables in Econometric Analysis: Problems from the Right and Problems from the Left," Journal of Economic Perspectives (2001).

Hausman, J., F. Scott-Morton and J. Abrevaya, "Misclassification of a Dependent Variable in qualitative Response Models," Journal of Econometrics, (1998)

Hausman, et al., "Econometric Models for Count Data with an Application to the Patents R&D Relationship," Econometrica, (1984)

Berndt, ch. 11