

EC 821

Time Series Econometrics

Spring 2000

Professor Serena Ng

Carney Room 238

Office Hours: Monday 1-3pm or by appointment

Class Web Page: <http://www2.bc.edu/~ngse/ec821-00.html>

This is a course on modern time series analysis, with an emphasis on applications of interest to macroeconomists. Part A of the course (taught by Ng) focuses on stationary time series. Part B (taught by Bai) considers non-stationary and ARCH-GARCH models. The final grade will be an equally weighted average of the two parts, each evaluated separately.

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Problem sets will consist of a mixture of theory and applied* problems. Feel free to use Eview, Gauss or Matlab, all available on FMRISC.

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Recommended Text

(JH) J.D. Hamilton, *Time Series Analysis*, Princeton University Press.

Other Useful Texts

(AH) Andrew Harvey, *Time Series Models*, MIT Press.

(FH) Fumio Hayashi, *Econometrics, Lecture Notes*.

(JD) James Davidson, *Econometric Theory*, Blackwell Publishing.

Some useful survey articles can be found in the Handbook of Econometrics, volumes II and IV, which are on reserve in the library.

Evaluation for Part A:

Problem sets (2) 40%

Exam (first week after the spring break) 60%

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Course Description for Part A: Stationary Time Series

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1. Basic Concepts: Difference Equations, Stationarity, Ergodicity, Autocovariance, and ARMA Models. (4 lectures)

JH, Ch. 1-2

AH, Ch. 1-2

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2. Spectral Representation and Estimation (2 lectures)

JH, Ch. 6

AH, Ch. 6

Thomas Sargent, Macroeconomic Theory, Academic Press, Ch. XI.

Den Haan W. J. and A. Levin (1996), "A Practitioner's Guide to Robust Covariance Matrix Estimation", NBER Technical Working Paper 197.

Andrews, D. W. K (1991) "Heteroskedastic and Autocorrelation Consistent Covariance Estimation", *Econometrica*, 817-854.

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3. Forecasting (2 lecture)

JH, Ch. 4

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4. Dynamic Regression Models (3 lectures)

JH, Ch. 7 and 8.

FH, Ch 2.

5. VARs, Causality, Exogeneity (2 lectures)

JH, Ch. 10-11

Handbook of Applied Econometrics, "Vector Autoregressive Models: Specification, Estimation, Inference and Forecasting" by Fabio

Canova.

Structural VARs (1 lecture)

Blanchard, O. J. and D. Quah (1989), "The Dynamic Effects of Aggregate Demand and Supply Disturbances", *American Economic Review*, 79, 655-673.

Bernanke, B. (1986), "Alternative Explanations of the Money-Income Correlation", *Carneige Rochester Conference Series on Public Policy*, 25, 49-99.

