Econometrics I
ECON 511
Fall 2009

Taner Yigit
Office: MA225
Office hrs: Tuesday 10:40 -11:30
　　　　　Wednesday 10:40 -11:30
tyigit@bilkent.edu.tr

Objectives: The goal of this class is to gain an introduction to some existing time series econometric techniques and see some of their applications. I am available should you have any problems in the course. I am usually available after class for discussion or to schedule an appointment if you cannot make my scheduled office hours.

Grading: will be based on class participation and attendance (10%), homework (20%), one midterm (30%), project proposal (10%), and a final project (30%).

References (both recommended):　Hamilton. *Time Series Analysis*

Maddala, and Kim. *Unit Roots, Cointegration and Structural Change*

Course outline:

Introduction and stationary ARMA models
ARMA models continued...
Vector Autoregression models
Trend and Cycle Decomposition
Nonstationarity and Unit Roots (Brownian Motion)
Structural Change
Cointegration
ARCH and GARCH models
State Space Form and Kalman Filters
Fractional Integration
Frequency Analysis
Regime Switching and Threshold Models

Readings:

- Granger and Lin. 1995. Causality in the Long Run. Econometric Theory 11(3); 530-36.

- Beveridge, S. and C. R. Nelson. 1981. "A New Approach to Decomposition of Economic Time Series into Permanent and Transitory Components with Particular Attention to Measurement of the Business Cycle" Journal of Monetary Economics 7 () 151-174.

- Ng & Perron. 1995. Unit Root Tests in ARMA Models with Data-Dependent Methods for the Selection of the Truncation Lag, Journal of the American Statistical Association

90; 268-81.

- Vogelsang TJ. Trend function hypothesis testing in the presence of serial correlation, Econometrica 1998; 66; 123-48.

- Lobato and Robinson. 1998. A Non-Parametric Test for I(0). Review of Economic Studies 65(3); 475-95.

- Stock & Watson. 1988. Variable Trends in Economic Time Series, Journal of Economic Perspectives 2; 147-74.

- Shin. 1994. A Residual Based Test of the Null of Cointegration Against the Alternative of No-Cointegration. Econometric Theory 10(1); 91-115.

- Perron, 1989. The Great Crash, the oil price shock and the unit root hypothesis. Econometrica 57 (1989), pp. 1361–1401.

- Harvey and Koopman. 2000. Signal Extraction and the Formulation of Unobserved Components Models. Econometrics Journal 3; 84-107.

- Bera, A. K., and M. Higgins. 1993. "A Survey of ARCH Models: Properties, Estimation and Testing," Journal of Economic Surveys, Vol. 7, 305-366.

- Baillie, R. T. 1996. Long Memory Processes and Fractional Integration in Econometrics. Journal of Econometrics 1996; 73; 5-59.

- Hamilton. J. "State-Space Models," in *Handbook of Econometrics*, Vol 4, pp. 3039-3080.