

Universidad Torcuato Di Tella
Series de Tiempo
Segundo Semestre de 2010
Program by Martín Sola (This version by MGR)

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(i) Objectives.

The course provides an introduction to the modern techniques used in statistical analysis of financial time series. The interaction between economic theory and econometric tests is emphasized and students will be trained in formulating and testing financial models.

(ii) Background Knowledge.

(a) Basic Statistics.

(b) Basic Econometrics.

(iii) Course Outline & Suggested Readings.

Recommended Textbooks

James D. Hamilton (1994), "Time Series Analysis" Princeton University Press.

Suggested Textbooks

Fumio Hayashi (2000), "Econometrics" Princeton University Press.

Walter Enders (1995), "Applied Econometric Time Series" John Wiley & Sons, Inc.

Contents:

1) Univariate linear stochastic models: ARMA processes.

-Chapters 1-5, Hamilton.

-Lecture Notes

2) Multivariate linear stochastic models: VAR processes

-Chapters 10-11, Hamilton

-Lecture Notes

3) Non-Stationary Time Series

-Chapters 15-17.

-Lecture Notes

4) Cointegration

-Chapters 19-20

-Lecture Notes

5) GMM

- Chapter 14, Hamilton.

6) Univariate non-linear stochastic models: ARCH processes.

- Chapter 21, Hamilton.

- Anil K. Bera and Matthew L. Higgins. "ARCH Models: Properties, Estimation and Testing. Journal of Economic Surveys.

- Lecture Notes.

7) Multivariate non-linear stochastic models and applications (e.g.

Testing the CAPM with time varying covariances).

- Chapter 21, Hamilton.

- Anil K. Bera and Matthew L. Higgins. "ARCH Models: Properties, Estimation and Testing. Journal of Economic Surveys.

- Lecture Notes

8) Markov Switching Models. Applications to Finance (e.g. Testing the Term Structure of interest rates).

- Chapter 22, Hamilton.

- Lecture Notes

9) The Kalman Filter

Chapter 13 (followed closely)