FE512: Econometric Analysis for Finance

금융계량분석

2014 Spring-II (2nd-half semester): 8 weeks (2014.3.31~2014.5.23)

Instructor : Lee, Hoe Kyung (이회경) hklee@business.kaist.ac.kr (Tel. 3639, #384)

Classes: Mondays and Wednesdays, 10:00 – 11:20 a.m.

Office Hours: Mondays, 2:30 - 4:00 p.m. or by appointment.

T. A.: TBA

Course Description:

The objective of this course is to familiarize students with econometric models and techniques that are widely used in modern empirical research. The course includes dummy and interaction variable models, testing linear hypothesis, specification errors, multicollinearity, nonspherical disturbances, and HC/HAC standard errors. The prerequisite is FE 502 (Statistical Analysis for Finance) or equivalent.

Textbook:

A draft lecture note is posted on the public folder in the College of Business webpage. This is a manuscript in progress.

References:

1. Johnston, J. and J. DiNardo, *Econometric Methods*, 4th ed, McGraw-Hill, 1997

2. Wooldridge, J. M., *Introductory Econometrics, A Modern Approach*, 5th ed. South-Western, 2013.

3. Hill, R. C, W. E. Griffiths and G. C. Lim, *Principles of Econometrics*, 4th ed., John Wiley & Sons, 2011.

4. Greene, W. H., *Econometric Analysis*, 7th ed., Pearson, 2012.

5. Brooks, C., *Introductory Econometrics for Finance*, 2nd ed., Cambridge University Press, 2008.

6. Rachev, S. T. et al., *Financial Econometrics: From Basics to Advanced Modeling Techniques*, John Wiley & Sons, 2007.

7. Verbeek, M., *A Guide to Modern Econometrics*, 4th ed., John Wiley & Sons, 2012.

8. Kennedy, P., *A guide to Econometrics*, 6th ed., Blackwell, 2008.

Grading:

Homework : 30%

Exam(s) : 70%

Topics to be covered:

1. Simple regression model:

   Assumptions, Brief introduction of IV and GLS, Properties of OLS estimators, Method of moment estimators, R^2, Hypothesis testing, ANOVA, Functional forms, etc.

2. Multiple regression:

   Matrix representation, Estimation of σ^2, Adjusted R^2

   Dummy and interaction variables, Difference-in-differences estimation

   Testing linear hypothesis: Wald and *F* tests

   Unrestricted and restricted regressions

   Tests of structural change

3. Specification errors: exclusion of relevant variables and inclusion of irrelevant variables

4. Multicollinearity

5. Nonspherical disturbances

   GLS and FGLS

   Heteroscedasticity: White test for heteroscedasticity

   Autocorrelation: Durbin-Watson test and Breusch-Godfrey LM test

   White's HC and Newey-West HAC standard errors

6. Heteroscedasticity in a time series context: ARCH and GARCH models