Econometric Analysis for Finance

FIN538 금융계량분석 A

Fall-I (1st-half semester): 8 weeks (2012.9.1~2012.10.26)

(tentative)

Instructor : Lee, Hoe Kyung, hklee@business.kaist.ac.kr (tel. 3639)
Classes : Tuesday and Thursday, 10:00 – 11:20 a.m.
Office Hours : Wednesday, 4:00 - 5:30 p.m. or by appointment. #S384
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 general linear regression models with nonspherical disturbances, a brief introduction to large sample theory and maximum likelihood estimation. The prerequisite is FIN 504 (Statistical Analysis for Finance) or equivalent.

Textbook:

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

References:

1. Brooks, C., *Introductory Econometrics for Finance*, 2nd ed., Cambridge University Press, 2008.
2. Rachev, S. T. et al., *Financial Econometrics: From Basics to Advanced Modeling Techniques*, John Wiley & Sons, 2007.

3. Wooldridge, J. M., *Introductory Econometrics, A Modern Approach*, 4th ed. South-Western, 2009.
4. Hill, R. C, W. E. Griffiths and G. C. Lim, *Principles of Econometrics*, 4th ed., John Wiley & Sons, 2011.
5. Kennedy, P., *A guide to Econometrics*, 6th ed., Blackwell, 2008.

6. Greene, W. H., *Econometric Analysis*, 7th ed., Pearson, 2012.
7. Enders, W., *Applied Econometric Time Series*, 3rd ed., Wiley, 2010.

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. K-variable linear model

   Matrix representation, estimation of σ^2, adjusted R^2

   Dummy and interaction variables, differences-in-differences estimation

   Testing linear hypothesis: Wald and F tests

   Unrestricted and restricted regressions

   Testing for structural changes

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 covariance estimators

6. Heteroscedasticity in time series contexts: ARCH and GARCH models