

Course Title	:	Introduction to Financial Econometrics
Course Code	:	FIN2250
Recommended Study Year	:	2 or 3
No. of Credits/Term	:	3
Mode of Tuition	:	Sectional Approach
Class Contact Hours	:	3 hours per week
Category in Major Programme	:	Stream Elective - Finance Stream
Prerequisite	:	BUS2201 Financial Management

Brief Course Description

This course provides an intensive introduction of basic principles of econometric analysis that may help students understand finance theories and their empirical applications. In addition, it also equips students with appropriate statistical techniques for doing applied financial research.

The emphasis will be on developing and applying regression-based techniques in either cross-sectional or time-series context. Their usefulness will also be examined in the light of financial studies.

Aims

This course aims at preparing students for conducting financial research with econometrics tool. After completing this course, students should be able to set up simple econometrics models with relevant variables in the right format, and to be able to interpret the implications of their statistical finding.

Learning Outcomes (LOs)

On completion of this course, students will be able to:

1. Set up valid model for estimation and/or hypothesis testing
2. Perform simple and multiple linear regression analysis using at least one statistical computer package
3. Identify and deal with problems with classical linear regression model such as multicollinearity, heteroscedasticity and autocorrelation
4. Interpret the regression results with reference to the assumptions and limitations

of the model.

Indicative Contents

The Classical Linear Regression Model (CLRM)

Simple Regression Model

Using Capital Asset Pricing Model as illustrating example for simple regression model.

Multiple Regression Model; Estimation and Hypothesis Testing

Using Arbitrage Pricing Theory as illustrating example.

Problems with the CLRM

Multicollinearity, Heteroscedasticity & Autocorrelation.

Time-series Models

Autoregressive Integrated Moving Average models. Unit Roots and Stationarity. Co-integration.

Advanced Topics (Optional)

Dummy variables. Dynamical models. Simultaneous equation models. Probit and Logit regressions. Data mining and other caveats.

Teaching Method

Concepts and theories will be taught in lecture. Problems and applications will be discussed interactively. At least one econometrics computer software will be introduced. Hand-on experience will be acquired in computer laboratories.

Measurement of Learning Outcomes

1. The final exam gauge students' mastery of basic skills and tools and financial problem-solving techniques commonly used in solving problems. (LO3)
2. Open-end questions in the final exam assess students' understanding of theories and concepts as well as their ability to articulate the acquired know-how. (LO1)
3. Term project evaluates students' skills to perform appropriate econometric analysis on real life data with computer statistical package and their ability to interpret the numerical results. (LO2, LO4)

Assessment

Continuous Assessment: Term Project 25%

For their project, students are required to apply the techniques learnt in class with an econometrics software to analyze real financial data.

Continuous Assessment: Two Common Tests 25%

Common tests will use computational questions to test students' mastery of basic skills and tools commonly used in solving financial problems. Open-end and short essay questions may also be given to test students' ability to articulate understanding of key concepts.

Examination: Cumulative Final* 50%

Final examination tests will rely more heavily on workout problems, short essays, and open-end questions to gauge students' financial problem-solving skills and their ability to articulate their understanding of key financial concepts.

* While computational questions will be used to test students' mastery of skills and tools, sufficient open-end questions will be given to test their interpretation of numerical answers and application of concepts.

The learning outcomes will be measured in the final exam rather than in the two common tests.

Required/Essential Reading

Hilmer Michael J. & Hilmer Christiana E., *Practical Econometrics: Data Collection, Analysis, and Application*, 1st edition, McGraw-Hill Education

Recommended/Supplementary Readings

Gujarati Damodar N. & Porter Dawn C., *Basic Econometrics*, latest edition, McGraw-Hill.

Elia Kacapyr, *Introductory Econometrics for Undergraduates: A Student's Guide to the Basics*, M.E. Sharpe, 2011.

Gujarati Damodar N. & Porter Dawn C., *Basic Econometrics*, 5th ed. international edition, McGraw-Hill,.

Maddala G. S. & Lahiri Kajal, *Introduction to Econometrics*, 4th Edition, Wiley, 2010.

Kennedy Y. P., *A Guide to Econometrics*, 6th ed., Wiley-Blackwell, 2008.

Wooldridge J.M., *Introductory Econometrics: a Modern Approach*, 6th edition, South-West College Publish, 2015.

Important Notes

- (1) Students are expected to spend a total of 10 hours (i.e. 3 hours of class contact and 7 hours of personal study) per week to achieve the course learning outcomes.
- (2) Students shall be aware of the University regulations about dishonest practice in course work, tests and examinations, and the possible consequences as stipulated in the Regulations Governing University Examinations. In particular, plagiarism, being a kind of dishonest practice, is “the presentation of another person’s work without proper acknowledgement of the source, including exact phrases, or summarised ideas, or even footnotes/citations, whether protected by copyright or not, as the student’s own work”. Students are required to strictly follow university regulations governing academic integrity and honesty.
- (3) Students are required to submit writing assignment(s) using Turnitin.
- (4) To enhance students’ understanding of plagiarism, a mini-course “Online Tutorial on Plagiarism Awareness” is available on <https://pla.ln.edu.hk/>.