

FNCE207 EMPIRICAL METHODS IN FINANCE

Elective course Bachelor of Business Management

Course instructor:

Professor Lim Kian-Guan, Singapore Management University, 2002

Textbook: "The Econometrics of Financial Markets" by John Y. Campbell, Andrew W. Lo, and A. Craig MacKinlay, Princeton University Press, <http://pup.princeton.edu>

<u>Weeks</u>	<u>Contents</u>
Session 1a	Prices, returns, and compounding (pp 9-13) Marginal, conditional, and joint distributions of returns (pp 13-20)
Session 1b	Some rudiments in linear regression methods: OLS and GLS
Session 2a	Market efficiency (pp 20-25)
Session 2b	Random walks, long-range dependence, and unit roots (pp 27-65) Predictability of asset returns - recent empirical evidence (pp 65-80)
Session 3a	Event study analysis (pp 149-163) Cumulative abnormal returns (pp 163-167)
Session 3b*	Presentations and discussions: Testing mean effect with changing variance (pp 167-172)* Other event study issues and tests (pp 172-180)*
Session 4a	Non-synchronous trading, and time aggregation (pp 83-99)
Session 4b	Bid-ask spread (pp 99-107) Recent empirical findings (pp 128-144)
Session 5a	Capital asset pricing model (pp 181-184) Maximum likelihood and GMM methods
Session 5b	Tests of CAPM (pp 188-217)
Session 6a	Arbitrage pricing theory (pp 219-233)
Session 6b*	Presentations and discussions: Multi-factor model estimation and testing (pp 233-251)*
Session 7a	Dividend models (pp 253-258) Rational bubbles (pp 258-275)
Session 7b	Consumption-based asset pricing (pp 291-293, 304-314) Market frictions and more general utility functions (pp 314-335)
Recess week	
Session 8a	Constructing Brownian Motion (pp 341-349) Parametric estimation of asset price dynamics (pp 356-364) Implied volatility (pp 377-379)
Session 8b	Martingale approach and Monte Carlo (pp 354-355, 382-391)
Session 9a	Bond basics (pp 395-408) Estimating zero curve (pp 409-413)
Session 9b*	Presentations and discussions: Interpreting the term structures (pp 413-424)*
Session 10a	Affine-yield term structure models (pp 427-442)

Session 10b	Nominal bonds and inflation (pp 442-448)
Session 11a	Short-rate process and evidence (pp 449-455)
Session 11b	Fitting current term structure and derivative pricing (pp 455-464)
Session 12a	Conditional variance models (pp 467-468, 479-494)
Session 12b	Discussion of Project Results**
Session 13a & b	Questions and Answers: revision
Final Examinations (40%)	

Assessments

20% group presentation*

40% homework project**

40% 3-hour open-book final examinations

* Groups of 4 to 6 students in each group will be organized and fixed at the start of course. Students must necessarily pre-read assigned readings * before class. Specific short questions based on the assigned reading materials will be randomly distributed one to each group at least one day before session commences. Some questions will be picked for student group presentations during the session. Assessment marks will be given based on correctness and completeness of answers, presentation clarity and impact, and participation of entire group. Each group presentation must be completed within 20 minutes. Each member of the same group will get the same marks. Any absentee member of group will not get any mark, except for medical or other permissible reasons.

** The project must be done individually without outside help. Project deadline is 5pm Friday of the 11th week.

Introduction

The complexity and enormity of global financial markets today has far-reaching implications for financial decision-making and practice. The uncertainty that drives and perturbs financial market prices and vignettes often draws rigorous scientific search in the hope of finding clues to reproduce winning formulas for gold, or else to find the secret recipe to avert disasters. This scientific drive is partly fueled by the rising of statistical theory to the occasion, and also spurred on by the availability, usually not convenient to other fields of non-experimental studies, of unequivocal market data. The validation of financial economic theory and models by data, and in turn the portent of appropriate modeling through data manifestations, all form parts of an interesting and exciting experience in the study of financial econometrics. Empirical methods in finance may be construed as financial econometrics engaged in the reality of market practice and data, and a consolidation and constitution of theoretical abstraction. It is not just best practice data analyses, or finely honed statistical methods, but all of these and more. In this course, we will also attempt to impart some understanding of the relevant issues for empirical investigations in finance.

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