

EMPIRICAL METHODS IN FINANCE

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Overview

1. Asset Pricing (Chs. 1-3)
 - (a) Portfolio Theory
 - (b) Derivation of the CAPM
 - (c) Empirical Testing
2. Market Efficiency (Chs. 5-6)
 - (a) The Efficient Market Hypothesis (EMH)
 - (b) Modeling and Prediction of Asset Returns
 - (c) Empirical Testing of EMH
3. Modeling Market Volatility (Ch. 20)
 - (a) Univariate Models
 - (b) Multivariate Models
4. Modeling Foreign Exchange (Chs. 11-13)
 - (a) Theoretical Concepts
 - (b) Empirical Testing

Literature

There is no individual textbook that precisely matches the content of the course. A book that comes close is:

- K. Cuthbertson, *Quantitative Financial Economics*, Chichester: John Wiley & Sons, 1996.

The (more or less) corresponding chapters in Cuthbertson are listed in the above Overview. Some additional handouts will be provided. An alternative textbook is:

- J.Y. Campbell, A.W. Lo and A.C. MacKinlay, *The Econometrics of Financial Markets*, Princeton: Princeton University Press, 1997.

Mathematical Background

Matrix algebra and some calculus will be used. A brief summary of relevant results will be provided. To refresh your matrix algebra skills, you may want to work through the matrix-algebra chapter of advanced econometric books such as

- W.H. Greene, *Econometrics*, New York: MacMillan Publishing Company, 4th ed. or higher.
- J. Johnston and J. Dinardo, *Econometric Methods*, McGraw-Hill, 4th ed., 1996.

If matrix algebra is rather new to you, I strongly recommend that you work through the end-of-chapter exercises of Greene or Johnston.