

**VANDERBILT UNIVERSITY**  
**OWEN GRADUATE SCHOOL OF MANAGEMENT**

Management 631a  
Professor Craig Lewis  
Module I - Fall 2003

**Empirical Methods in Corporate Finance**

**Course Description**

This course examines empirical methods in corporate finance. It is organized around the theme of econometric approaches to analyzing common problems encountered when conducting empirical research. We will focus on hypothesis testing, specification tests, general methods of moments estimation, the capital asset pricing model, multifactor asset pricing models, event studies, operating performance studies, simultaneous equations models, and endogeneity issues. The course will also demonstrate programming issues in SAS and/or Gauss.

**Course Requirements and Grading**

There will be a number of homework assignments and a class project. Homework problems are individual assignments. You may discuss the problem sets with other students but you must complete the assignment yourself. This includes all programming exercises. The class project will require you to replicate the empirical analysis in a published paper. You may select any paper you wish (subject to my approval) provided it uses techniques covered in class.

*Grading:*

The approximate importance of each of the course requirements is:

Problem Sets	45%
Class Project	45%
Class Participation	10%

The final grade for the course will be determined on a total point basis.

## **Textbooks**

**Required:** Campbell, John Y., Lo, Andrew W., and MacKinlay, A. Craig, The Econometrics of Financial Markets, Princeton University Press, 1997, ISBN 0-691-04301-9.

**Recommended:** Cochrane, John H., Asset Pricing, Princeton University Press, 2001, ISBN 0-691-07498-4.

Greene, William H., Econometric Analysis, 5<sup>th</sup> Edition, Prentice Hall, 2002, ISBN 0-130-66189-9

Wooldridge, Jeffrey M., Econometric Analysis of Cross-Section and Panel Data, MIT Press, 2001, ISBN 0-262-23219-7.

## **Course Outline**

### **I. Financial databases and programming concepts**

### **II. Estimation using General Method of Moments (GMM)**

Cochrane: Chapter 10, GMM in Explicit Discount Factor Models

Cochrane: Chapter 11, General Formulas and Applications

Hansen, Lars, 1982, "Large Sample Properties of General Method of Moments Estimators." *Econometrica* 50, 1029-1054.

Hansen, Lars and K. Singleton, 1982, "Generalized Instrumental Variables Estimation of Nonlinear Rational Expectation Models," *Econometrica*, 50, 1269-1288.

Lucas R., "Asset Prices in an Exchange Economy," *Econometrica* 46, 1429-1446.

### **III. Hypothesis testing and specification tests**

### **IV. The Capital Asset Pricing Model**

CLM: Chapter 5, The Capital Asset Pricing Model

Cochrane: Chapter 9.1, Capital Asset Pricing Model (CAPM), pg. 152-165

Fama, Gene and J.D. Macbeth, 1973, "Risk, Return, and Equilibrium: Empirical Tests," *Journal of Political Economy*, 71, 607-636.

### **V. Multifactor Asset Pricing Models**

CLM: Chapter 6, Multifactor Pricing Models

Cochrane: Chapter 9.4, Arbitrage Pricing Theory (APT), pg. 173-182

Fama, E. and K. French, 1993, "Common Risk Factors in the Returns of Stocks and Bonds," *Journal of Financial Economics* 33, 3-56.

Shanken, Jay, 1992 "On the Estimation of Beta Pricing Models," *Review of Financial Studies*, 5, 1 - 34

## VI. **Event studies**

CLM: Chapter 4, Event-Study Analysis

Binder, John j., 1998, "The Event Study Methodology since 1969," *Review of Quantitative Finance and Accounting*, 11 (2), September 111-137.

Malatesta John and R. Thompson, 1985, "Partially Anticipated Events: A Model of Stock Price Reactions with an Application to Corporate Acquisitions," *Journal of Financial Economics*, 14, 237 - 250.

Schipper, K. and R. Thompson, 1983, "The Impact of Merger-Related Regulations on the Shareholders of Acquiring Firms," *Journal of Accounting Research*, 21, 184-221.

Schipper, K. and R. Thompson, 1985, "The Impact of Merger-Related Regulations using Exact Test Statistics," *Journal of Accounting Research*, 23, 408-415.

## VII. **Long-Horizon Event Studies**

Barber, Brad M. and John D. Lyon, "Detecting Long-Run Abnormal Stock Returns: The Empirical Power and Specification of Test Statistics," *Journal of Financial Economics* 43 (1997), 341-372.

Brav, A., 2000, "Inference in Long-Horizon Event Studies: A Bayesian Approach with Application to Initial Public Offerings," *Journal of Finance* 55, 1979-2016.

Brav, A., C. Geczy, and P. Gompers, 2000, "Is the Abnormal Return Following Equity Issuance Anomalous?," *Journal of Financial Economics* 56, 209-249.

Kothari, S.P. and J. Warner, 1997, "Measuring Long-Horizon Security Price Performance," *Journal of Financial Economics* 43, 301-339.

Loughran, T. and J. Ritter, 1995, "The New Issues Puzzle," *Journal of Finance* 50, 23-51.

Loughran, T. and J. Ritter, 2000, "Uniformly Least Powerful Tests of Market Efficiency," *Journal of Financial Economics* 55, 361-389.

Mitchell, M. and E. Stafford, 2000, "Managerial Decisions and Long-Term Stock Price Performance," *Journal of Business* 73, 287-329.

## VIII. **Operating performance studies**

Loughran, Tim and Jay Ritter, "The Operating Performance of Firms Conducting Seasoned Equity Offerings," *Journal of Finance* 52 (December 1997), 1823-1850.

Barber, Brad M. and John D. Lyon, "Detecting Abnormal Operating Performance: The Empirical Power and Specification of Test Statistics," *Journal of Financial Economics* 41 (1996), 359-399.

Hogan, C. and Craig Lewis, The Long-Run Operating Performance of Firms Adopting Compensation Plans Based on Economic Profits, Owen Graduate School of Management working paper (2003).

## IX. **Endogeneity Issues**

Dehejia, R.H. and S. Wahba, "Propensity Score Matching Methods for Non-Experimental Causal Studies," Working paper 6829, National Bureau of Economic Research (1998).

Rosenbaum, P. and D. Rubin, "The Central Role of the Propensity Score in Observational Studies for Causal Effects," *Biometrika* 70 (1983), 41-55.

Villalonga, B. "Does Diversification Cause the 'Diversification Discount'?", Working paper, University of California, Los Angeles (July 2000).