

Course Syllabus—Fall 1997
Finance 7200: Doctoral Seminar--Empirical Research Methods in Finance
[Reasonably Final]

Course Instructor: Russ Wermers

Classroom: Business 201
 Class Time: Tuesdays and Thursdays, 3:30-4:45 (unless we can agree on one day per week)
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 Office Hours: Wednesdays, 2-5 (or, by appointment)

Course Objectives:

1. To introduce you to several econometric methods commonly used in finance research
2. To introduce you to several applications of these methods
3. To (potentially) give you some ideas for a dissertation topic

Final Grade Weighting:

Homework/Class Participation	30 %
Project	30 %
Final Exam	40 %

Textbooks: [CLM] Campbell, Lo, and MacKinlay, *The Econometrics of Financial Markets*, Princeton, c1997
 [JZM] Jarrow, Ziemba and Maksimovic, (eds), *The Finance Handbook*, North-Holland, c1997
 [ET] Efron and Tibshirani, *An Introduction to the Bootstrap*, Chapman & Hall, c1993
 [F] Fishman, *Monte Carlo*, Springer-Verlag, c1996

Journal Articles (a class-coordinated project to compile)

Other optional books of interest:

Hamilton, *Time Series Analysis*, Princeton, c1994
 Greene, William H., *Econometric Analysis*, Macmillan, c1993.

Homework: Homework will be assigned from the CLM text along with some other ad hoc problems that I think will help you both in understanding the course work and in downloading and working with data. I'll announce when homework is due, and I'll call on someone to lead a "roundtable" discussion on approaches to the problem. Others are expected to contribute to the discussion, too. Homework will generally not be collected, but you need to be prepared every time for the roundtable discussion.

Class

Participation: Each person will be assigned two papers to present to the class sometime during the semester. Basically, you need to prepare clear notes that can be distributed to the class and that can be used in your presentation. Aim for a 30 minute presentation. Expect questions about the paper from the participants, but the participants will be expected to also help with tough questions.

Project:

By the end of Week 6, you need to submit a short proposal for a project. The proposal should have a brief outline of the subject, the methodology, and the most important published literature that you will use as a starting point. The project can be entirely theoretical, entirely data analysis, or a combination of both, as long as the topic is related to a subject covered in this class. Please note, though, that a person not analyzing any data will be required to compensate by delving deeper into the theory. I'll review the projects by Week 7 and give you feedback. It may be a good idea to meet with me to discuss your idea before writing the proposal to avoiding wasting time. The projects are due the last day of finals, Thursday, December 19, by 5:00 p.m. A good target length to aim for is around 15 pages of text plus any supporting programs or tables.

Final Exam: The final will be comprehensive and will be administered during the University-assigned final exam date and time, unless every registered student signs off on an alternative date and time. This exam should be a good practice exercise for preparing for the finance field exam. Generally, the majority of the exam will be material directly covered in class, although a small portion will test whether you read the articles reasonably well. As long as you understand the main results and supporting proofs of papers (along with assigned homework), you should be in very good shape. The exam is scheduled for Monday, December 15, 1997 at 3:30-6:30 p.m. in Business 201.

TOPICS

(Boldface Type Indicates Papers with Heavier Emphasis)

I. Introduction/Philosophical Issues in Empirical Research

1. **CLM, Chapter 1.**
2. **Leamer (1983), "Let's Take the Con out of Econometrics," *American Economic Review*, 73(1), 31-43.**
3. **Lo and MacKinlay (1990b), "Data-Snooping Biases In Tests Of Financial Asset Pricing Models," *Review of Financial Studies*, v3(3), 431-468.**
4. McCloskey (1985), "The Loss Function has been Mislaid: The Rhetoric of Significance Tests," *American Economic Review*, v75, 201-205.
5. Greene, *Econometric Analysis*, Chapter 2 (review of linear algebra).
6. Roll (1988), "R²," *Journal of Finance*, v43(2), 541-566.
7. **Black (1993), "Estimating Expected Return," *Financial Analysts Journal*, September-October, 36-38.**

II. Technical Issues in Working with Returns Data

1. **CLM, Chapter 3.**
2. Cheng and Deets (1971), "Statistical Biases And Security Rates Of Return," *Journal of Financial and Quantitative Analysis*, 1971, v6(3), 977-994.
3. **Roll (1983), "Vas Ist Das?," *Journal of Portfolio Management*, 9(2), 18-28.**
4. Shumway (1997), "The Delisting Bias in CRSP Data," *Journal of Finance*, v52(1), 327-340.

A. Bid-Ask Spread

1. **Blume and Stambaugh (1983), "Biases In Computed Returns: An Application To The Size Effect," *Journal of Financial Economics*, v12(3), 387-404.**
2. **Roll (1983), "On Computing Mean Returns And The Small Firm Premium," *Journal of Financial Economics*, v12(3), 371-386.**

3. **Roll (1984), "A Simple Implicit Measure of the Effective Bid-Ask Spread in an Efficient Market,"** *Journal of Finance*, v39, 1127-1139.

B. Non-Synchronous Trading

1. **Scholes and Williams (1977), "Estimating Betas From Nonsynchronous Data,"** *Journal of Financial Economics*, v5(3), 309-327.
2. Lo and MacKinlay (1988), "Stock Market Prices Do Not Follow Random Walks: Evidence from a Simple Specification Test," *Review of Financial Studies*, v1, 41-66.
3. Lo and MacKinlay (1990a), "An Econometric Analysis of Nonsynchronous-Trading," *Journal of Econometrics*, v45, 181-212.
4. Lo and MacKinlay (1990c), "When are Contrarian Profits Due to Stock Market Overreaction?," *Review of Financial Studies*, v3, 175-208.
5. Jegadeesh and Titman (1995), "Overreaction, Delayed Reaction, and Contrarian Profits," *Review of Financial Studies*, v8(4), 973-993.

C. Overlapping Observations

1. **Hansen and Hodrick (1980), "Forward Exchange Rates As Optimal Predictors Of Future Spot Rates: An Econometric Analysis,"** *Journal of Political Economy*, v88(5), 829-853.
2. Richardson and Smith (1991), "Tests of Financial Asset Pricing Models in the Presence of Overlapping Observations," *Review of Financial Studies*, v4, 227-254.
3. Geweke (1981), "The Approximate Slopes of Econometric Tests," *Econometrica*, v49(6), 1427-1442.

D. Bootstrapping Methods

1. **ET**, Chapters ???.

E. Monte Carlo Methods

1. **E**, Chapters ???.

F. Heteroskedasticity and Autocorrelation

1. White (1980), "A Heteroskedasticity-Consistent Covariance Matrix Estimator and a Direct Test for Heteroskedasticity," *Econometrica*, v48(4), 817-838.
2. Hamilton (1994), *Time Series Analysis, Chapter10*, Princeton University Press.
3. **Newey and West (1987), "A Simple, Positive Semi-Definite, Heteroskedasticity And Autocorrelation Consistent Covariance Matrix,"** *Econometrica*, v55(3), 703-708.
4. Andrews (1991), "Heteroskedasticity and Autocorrelation Consistent Covariance Matrix Estimation," *Econometrica*, v59(3), 817-858.
5. Andrews and Monahan (1992), "An Improved Heteroskedasticity and Autocorrelation Consistent Covariance Matrix Estimator," *Econometrica*, v60(4), 953-966.

G. Measuring Long-Run Abnormal Returns

1. **Barber and Lyon (1996), “Detecting Long-Run Abnormal Stock Returns: The Empirical Power and Specification of Test Statistics,” *Journal of Financial Economics* 43, 341-372.**
2. **Kothari and Warner (1996), “Measuring Long-Horizon Security Price Performance,” *Journal of Financial Economics* 43, 301-339.**
3. Barber and Lyon (1996), “How Can Long-Run Abnormal Stock Returns be Both Positively and Negatively Biased?” UC-Davis Working Paper.
4. Barber, Lyon, and Tsai (1996), “Improved Methods for Tests of Long-Run Abnormal Stock Returns,” UC-Davis Working Paper.

III. Tests of the CAPM

1. **CLM, Chapter 5.**
2. **Fama and MacBeth (1973), “Risk, Return, And Equilibrium: Empirical Tests,” *Journal of Political Economy*, v81(3), 607-636.**
3. Sefcik and Thompson (1986), “An Approach to Statistical Inference in Cross-sectional Models with Security Abnormal Returns as Dependent Variable,” *Journal of Accounting Research*, 24, 316-334.
4. Roll (1977), “A Critique Of The Asset Pricing Theory's Tests; Part I: On Past And Potential Testability Of Theory,” *Journal of Financial Economics*, 1977, v4(2), 129-176.
5. **Fama and French (1992), “The Cross-Section Of Expected Stock Returns,” [popularly known as “Is Beta Dead?”] *Journal of Finance*, v47(2), 427-466.**
6. Kim, Dongcheol (1995), “The Errors in the Variables Problem in the Cross-Section of Expected Stock Returns,” *Journal of Finance*, v50(5), 1605-1634.

IV. Empirical Predictors of Expected Stock Returns

1. Fama and French (1993), “Common Risk Factors in the Returns on Stocks and Bonds,” *Journal of Financial Economics*, v33(1), 3-56.
2. **Daniel and Titman (1997), “Evidence on the Characteristics of Cross Sectional Variation in Stock Returns,” *Journal of Finance*, v52(1), 1-33.**
3. Berk (1995), “A Critique of Size-Related Anomalies,” *Review of Financial Studies*, v8, 275-286.

V. Tests of Mean Reversion and Stock Return Predictability

2. Jegadeesh (1990), "Evidence Of Predictable Behavior Of Security Returns," *Journal of Finance*, v45(3), 881-898.
3. **Jegadeesh (1991), "Seasonality In Stock Price Mean Reversion: Evidence From The U.S. And The U.K.," *Journal of Finance*, 1991, v46(4), 1427-1444.**
4. **Jegadeesh and Titman (1993), "Returns to Buying Winners and Selling Losers," *Journal of Finance*, v48 (1), 65-91.**
5. **Chan, Jegadeesh, and Lakonishok (1996), "Momentum Strategies," *Journal of Finance*, v51(5), 1681-1714.**
6. DeBondt and Thaler (1985), "Does The Stock Market Overreact?" *Journal of Finance*, v40(3), 793-805.
7. Lamoureux and Zhou (1996), "Temporary Components of Stock Returns: What Do the Data Tell Us?" *Review of Financial Studies*, v9(4), 1033-1059.
8. **Wermers (1997), "Mutual Fund Herding and the Impact on Stock Prices," University of Colorado Working Paper.**
9. **Warther (1995), "Aggregate Mutual Fund Flows and Security Returns," *Journal of Financial Economics*, v39(2/3), 209-235.**

VI. Portfolio Evaluation

1. **JZM, Chapter 19.**
2. Admati and Ross (1985), "Measuring Investment Performance in a Rational Expectations Equilibrium Model," *Journal of Business*, 58, 1-26.
3. Admati, Bhattacharya, Pfleiderer, and Ross (1986), "On Timing and Selectivity," *Journal of Finance*, 41, 715- 730.
4. **Brown, Goetzmann, Ibbotson, and Ross (1992), "Survivorship Bias in Performance Studies," *Review of Financial Studies*, v5, 553-580.**
5. **Chen and Knez (1996), "Portfolio Performance Measurement: Theory and Applications," *Review of Financial Studies*, v9(2), 511-556.**
6. Connor and Korajczyk (1986), "Performance Measurement with the Arbitrage Pricing Theory: A New Framework for Analysis," *Journal of Financial Economics*, v15, 373-394.
7. Cumby and Modest (1987), "Testing for Market Timing Ability: A Framework for Forecast Evaluation," *Journal of Financial Economics*, v19, 169-190.
8. **Dybvig and Ross (1985), "Differential Information and Performance Measurement Using a Security Market Line," *Journal of Finance*, v40, 383-399.**

9. **Grinblatt and Titman (1989), "Portfolio Performance Evaluation: Old Issues and New Insights," *Review of Financial Studies*, v2, 393-422.**
10. **Grinblatt and Titman (1993), "Performance Measurement without Benchmarks: An Examination of Mutual Fund Returns," *Journal of Business*, v66, 47-68.**
11. **Heinkel and Stoughton (1996), "A New Method for Portfolio Performance Measurement," Unpublished Working Paper.**
12. Henriksson and Merton (1981), "On Market Timing and Investment Performance II: Statistical Procedures for Evaluating Forecasting Skills," *Journal of Business*, v54, 513-533.
13. **Mayers and Rice (1979), "Measuring Portfolio Performance and the Empirical Content of Asset Pricing Models," *Journal of Financial Economics*, v7, 3-29.**
14. Merton (1981), "On Market Timing and Investment Performance I: An Equilibrium Theory of Value for Market Forecasts," *Journal of Business*, v54, 363-406.
15. **Roll (1978), "Ambiguity When Performance is Measured by the Securities Market Line," *Journal of Finance*, v33, 1051-1069.**
16. **Roll (1979), "A Reply to Mayers and Rice," *Journal of Financial Economics*, v7, 391-400.**
17. Grinblatt, Titman, Wermers (1995), "Momentum Investment Strategies, Portfolio Performance, and Herding: A Study of Mutual Fund Behavior," *American Economic Review*, 1088-1105.
18. Wermers, Russ (1997), "Momentum Investment Strategies of Mutual Funds, Performance Persistence, and Survivorship Bias," University of Colorado Working Paper.
19. **Dybvig and Ross (1985), "The Analytics of Performance Measurement Using a Security Market Line," *Journal of Finance*, v40(2), 401-416.**
20. **Cornell (1979), "Asymmetric Information and Portfolio Performance Measurement," *Journal of Financial Economics*, v7, 381-390.**
21. Gibbons, Ross, and Shanken (1989), "A Test of the Efficiency of a Given Portfolio," *Econometrica*, 57, 1121-1152.
22. Copeland and Mayers (1982), "The ValueLine Enigma (1965-1978): A Case Study of Performance Evaluation Issues," *Journal of Financial Economics*, v10(3), 289-322.
23. **Daniel, Grinblatt, Titman, and Wermers (1997), "Measuring Mutual Fund Performance with Characteristic-Based Benchmarks," *Journal of Finance*, v52(3), 1035-1058.**
24. Carhart (1997), "On Persistence in Mutual Fund Performance," *Journal of Finance*, v52(1), 57-82.
25. Treynor and Mazuy (1966), "Can Mutual Funds Outguess the Market ?" *Harvard Business Review*, 44, 131-136.
26. Christopherson, Ferson, and Glassman (1997), "Conditioning Manager Alphas on Economic Information: Another Look at the Persistence of Performance," *Review of Financial Studies*, forthcoming.

VII. Microstructure

A. Price Quotes and Order Flow

1. **Blume and Goldstein (1997), "Quotes, Order Flow, and Price Discovery," *Journal of Finance*, v52(1), 221-244.**

B. Block Trades

1. Madhavan and Cheng (1997), "In Search of Liquidity: Block Trades in the Upstairs and Downstairs Markets," *Review of Financial Studies*, v10(1), 175-204.
2. Keim and Madhavan (1995), "The Anatomy of the Trading Process," *Journal of Financial Economics*, v37, 391-398.
3. **Keim and Madhavan (1996a), "Transactions Costs, Investment Style, and Exchange Listing: An Analysis of Institutional Equity Trades," USC Working Paper.**
4. Keim and Madhavan (1996b), "The Upstairs Market for Large-Block Transactions: Analysis and Measurement of Price Effects," *Review of Financial Studies*, v9, 1-36.
5. **Holthausen, Leftwich, and Mayers (1987), "The Effect of Large Block Transactions on Security Prices: A Cross-Sectional Analysis," , " *Journal of Financial Economics*, v19, 237-267.**
6. **Holthausen, Leftwich, and Mayers (1990), "Large-Block Transactions, the Speed of Response, and Temporary and Permanent Stock-Price Effects," , " *Journal of Financial Economics*, v26, 71-95.**
7. Chan and Lakonishok (1995), "The Behavior of Stock Prices around Institutional Trades," *Journal of Finance*, v50(4), 1147-1174.

C. Manipulation

1. Chan, K. C., William G. Christie and Paul H. Schultz. "Market Structure And The Intraday Pattern Of Bid-Ask Spreads For NASDAQ Securities," *Journal of Business*, 1995, v68(1), 35-60.
2. **Christie, William G. and Paul H. Schultz. "Why Do NASDAQ Market Makers Avoid Odd-Eighth Quotes," *Journal of Finance*, 1994, v49(5), 1813-1840.**
3. Christie, William G. and Paul H. Schultz. "Policy Watch: Did Nasdaq Market Market Implicitly Collude?," *Journal of Economic Perspectives*, 1995, v9(3), 199-208.
4. **Christie, William G., Jeffrey H. Harris and Paul H. Schultz. "Why Did NASDAQ Market Makers Stop Avoiding Odd-Eighth Quotes," *Journal of Finance*, 1994, v49(5), 1841-1860.**

VIII. Event Studies

1. **MacKinlay (1997), "Event Studies in Economics and Finance," *Journal of Economic Literature*, v35(1), 13-39.**