Prof. Markus K. Brunnermeier
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***Office Hours:* Th. 4:30 - 6:00**

Princeton University
Econ 412: Financial Markets
http://courseinfo.princeton.edu
Room 304 Frist Hall
Tue., 1:30 – 4:20 p.m.
Fall 2000

ECON 412: Financial Markets
Structure, Institutions and Regulations

Course Description The course focuses on stock markets and their role in providing financing. The first part of the course focuses on *stock market microstructure*, that is, how secondary trading on stock exchanges is organized and regulated, and how this affects their functioning in terms of liquidity, informational efficiency and other measures of performance. The second part of the course focuses on the role of the stock market as a primary market, that is, in *raising capital*: the listing decision, IPO pricing, the tradeoffs that firms face in choosing a mix of publicly traded and closely held sources of financing.

Prerequisites Economics 318 (Corporate Finance) **and** Economics 305 (Microeconomic Theory).

Schedule In general, two lectures and one class hour a week. We will keep the division between lectures and classes flexible:

Lectures:	Tuesday 1:30 – 3:10 p.m., Frist 304.
Classes/Students' Presentations:	Tuesday 3:30 – 4:20 p.m., Frist 304.

The midterm test will be held on Tuesday Oct 24, at 1:30 p.m. (subject to change).

Preceptor: David Skeie
B-10 Fisher Hall
e-mail: drskeie@princeton.edu
Tel. (609) 258-40 52
Office hours: Wednesdays 1:00 – 2:15 p.m.

Requirements/grading

Class exercises and paper/presentation:	30 %
Midterm test:	30 %
Final examination:	40 %

READING LIST

There is no specific textbook for the course. Readings will be made available.

I. STOCK MARKET MICROSTRUCTURE

1. INTRODUCTION AND DESCRIPTION OF INSTITUTIONS

Harris, Larry, *Trading and Exchanges* (incomplete draft), Oxford University Press (forthcoming)

Teweles, Richard J., Edward S. Bradley, and Ted M. Teweles, *The Stock Market*, John Wiley & Sons., 1998, 7th edition

Layda, Torsten, *An Order Matcher for an Electronic Stock Exchange*, http://www.bytesmiths.com/pubs/DesignFest97/problems/exchange.html

Daly, Robert and Harry Newton, *What Should It Really Cost to Trade?* Technology Investor, September 2000, pp. 52-56. (http://www.technologyinvestor.com)

Fabozzi, Frank J., Franco Modigliani and Michael G. Ferri, 1998. Chapters 15, 18 and 19 (Secondary Markets, Common Stock Markets and Stock Markets around the World), pp. 288-299 and 338-384 of: *Foundations of Financial Markets and Institutions*, Prentice-Hall International, Englewood Cliffs, second edition.

Gitman, Lawrence J. and Joehnk Michael D., *Fundamentals of Investing* (7th edition), Chapter 2 only

2. INCORPORATING INFORMATION IN THE STOCK PRICE: RATIONAL EXPECTATIONS EQUILIBRIUM

Bray, Margaret, 1985, Rational expectations, information and asset markets: an introduction, *Oxford Economic Papers* 37, 161-195. **Simplified model of lectures.**

Grossman, Sanford J. and Joseph Stiglitz, 1980, On the impossibility of informationally efficient markets, *American Economic Review* 70, 393-408. **Main ideas only, insofar as covered in lectures. [JSTOR]**

3. - 4. STOCK MARKET LIQUIDITY AND TRADING COSTS: THEORY AND EVIDENCE

"Walter Bagehot" (Jack L. Treynor), 1971. The only game in town, *Financial Analysts Journal* 27, 12-14, 22.

Kyle, Albert S., 1985. Continuous auctions and insider trading, *Econometrica* 53, **sections 1 and 2 only, pp. 1315-1320. [JSTOR]**

M. Pagano and A. Roell, *Determinants of Liquidity in Security Markets*. Unpublished lecture notes, 1997. **Parts 1, 2, 3.2, 4, 5.3.**

Grossman, Sanford J. and Merton H. Miller, 1988, Liquidity and Market Structure, *Journal of Finance*, Vol. XLIII, No. 3, **[JSTOR]**

Comparison of market trading systems

Miller, Merton H. and Charles W. Upton, 1991, Strategies for capital market structure and regulation, Chapter 8 (pp. 127-167) of: Merton H. Miller, *Financial Innovations and Market Volatility*, Blackwell, Cambridge MA & Oxford UK.

Trading mechanisms, insider trading, trade execution and reporting rules

Pagano, Marco and Ailsa A. Röell, 1992. Auction and dealership markets: What is the difference? *European Economic Review* 36.

New competing trading mechanisms – ECNs etc.

Hendershott, Terrence, and Haim Mendelson, Crossing Networks and Dealer Markets: Competition and Performance, *Journal of Finance*. (forthcoming) **[only main idea]**

Overview article

Madhavan, Ananth, Market Microstructure: A Survey, *Journal of Financial Markets* (forthcoming), [on the web: http://www.marshall.usc.edu/FBE/index.html]

6. – 7. CRASHES AND VOLATILITY

Background reading:

The Brady and Miller Reports, 1988. Reproduced in Part II of: Barro, Robert J., Eugene F. Fama, Daniel R. Fischel, Allan H. Meltzer, Richard Roll and Lester G. Telser, *Black Monday and the Future of Financial Markets*, Dow-Jones-Irwin, 1989.

Greenwald, Bruce and Jeremy Stein, 1988. The Task Force Report: The Reasoning Behind the Recommendations, *Journal of Economic Perspectives* 2(3), 3-23. **[JSTOR]**

Kyle, Albert S., 1988. Improving the performance of the stock market, *California Management Review* 30, 90-114.

Wigmore, Barrie A., 1998. Revisiting the October 1987 Crash, *Financial Analysts Journal* 54(1), 36-48.

Jacobs, Bruce I., 1999, *Capital Ideas and Market Realities*, Blackwell Publishers, Oxford

Herding Models:

Brunnermeier, Markus K., "*Asset Pricing under Asymmetric Information – Bubbles, Crashes, Technical Analysis and Herding*", Oxford University Press, Oxford, Dec. 2000 (forthcoming), Chapter 5

Bikhchandani, Sushil, David Hirshleifer, and Ivo Welch, 1992, "A Theory of Fads, Fashion, Custom, and Cultural Change as Informational Cascades", *Journal of Political Economy*, 100, 992-1026.

Crash Models:

Avery, Christopher and Peter Zemsky, 1998, "Multi-dimensional Uncertainty and Herd Behavior in Financial Markets", *American Economic Review*, 88 (4), 724-748.

Lee, In-Ho, 1998, "Market Crashes and Information Avalanches", *Review of Economic Studies*, 65, 741-759.

Grossman, Sanford, "An Analysis of the Implications for Stock and Futures Price Volatility of Program Trading and Dynamic Trading Strategies", *Journal of Business*, 1988, 61, 275-298.

Bubbles:

Allen, Franklin and Douglas Gale, 1999, "Bubbles, Crises, and Policy" *Oxford Review of Economic Policy*, Vol. 15, No. 3.

Blanchard, Olivier and Mark Watson, 1982, "Bubbles, Rational Expectations and Financial Markets," in P. Wachtel (ed.) *Crisis in the Economic and Financial Structure*: Bubbles, Bursts and Shocks, Lexington, Lexington, MA

8. Keynes' Beauty Contest – Investigative Herding

Keynes, John Maynard, 1936. The state of long-term expectation, Chapter 12 of *The General Theory of Employment Interest and Money*.

Brunnermeier, Markus K., "*Asset Pricing under Asymmetric Information – Bubbles, Crashes, Technical Analysis and Herding*", Oxford University Press, Oxford, Dec. 2000 (forthcoming), Chapter 6

Froot, Kenneth A., David S. Scharfstein and Jeremy C. Stein, 1992, "Herd on the Street: Informational Inefficiencies in a Market with Short-Term Speculation," *Journal of Finance*, Vol. 47, pp. 1461-1484.

Dow, James and Gary Gorton, 1994, "Arbitrage Chains," *Journal of Finance*, Vol. 49, No. 3, pp. 819-849.

II. THE STOCK MARKET AS A SOURCE OF CAPITAL

9. –10. GOING PUBLIC

Liquidity and the cost of capital

Amihud, Yakov and Haim Mendelson, 1986. Liquidity and stock returns, *Financial Analysts Journal*, May-June, 43-48.

Lecture notes.

The primary market

Fabozzi, Frank J., Franco Modigliani and Michael G. Ferri, Chapter 14 (Primary Markets and the Underwriting of Securities), pp. 271-287 of: *Foundations of Financial Markets and Institutions*, Prentice-Hall International, Englewood Cliffs, second edition, 1998.

IPO pricing

Ibbotson, Roger G. and Jay R. Ritter, 1996. Initial public offerings, in: R. Jarrow and V. Maksimovic (eds.), *Handbook of Finance*, North-Holland Elsevier.

Rock, Kevin, 1986. Why new issues are underpriced, *Journal of Financial Economics* 15, 187-212. **Lecture note.**

Benveniste, Lawrence M. and Paul A. Spindt, 1989. How investment bankers determine the offer price and allocation of new issues, *Journal of Financial Economics* 24, 343-361.

Why go public?

Pagano, Marco, Fabio Panetta and Luigi Zingales, 1998. Why do companies go public? An empirical analysis, *Journal of Finance*.

Röell, Ailsa A., 1996. The decision to go public: An overview. *European Economic Review* 40, 1071-1081.

Cost of an IPO

Chen, Hsuan-Chi and Jay R. Ritter, 2000. The Seven Percent Solution. *Journal of Finance*, Vol. LV, No. 3

11. STOCK PRICE AND ALLOCATIVE EFFICIENCY

Holmstrom, Bengt and Jean Tirole, 1993, Market liquidity and performance monitoring, *Journal of Political Economy* 101, 401-419. **Introduction and conclusions; handout.**

Dow, James and Gary Gorton, 1997, Stock market efficiency and economic efficiency: is there a connection? *Journal of Finance* 52, 1087-1129. **Lecture note (simplified model).**

12. FINANCIAL MARKETS AND GROWTH (OPTIONAL)

Levine, Ross and Sara Zervos, 1998. Stock markets, banks, and economic growth, *American Economic Review* 88, 537-558.

Rajan, Raghuram G. and Luigi Zingales, 1998. Financial dependence and growth, *American Economic Review* 88, 559-586.

III. CREDIT RATIONING

13. CREDIT RATIONING (OPTIONAL)

Stiglitz, J. and Weiss A., 1981, "Credit Rationing in Markets with Imperfect Information", *American Economic Review* 71, 393-410.

Bester, Helmut and Hellwig, Martin, 1987, "Moral Hazard and Equilibrium Credit Rationing: An Overview of the Issues" in Bamberg, Gunter, ed.; Spremann, K., ed. *Agency theory, information, and incentives*. New York; Berlin; London and Tokyo: Springer, 1987, pages 135-166.

IV. POSSIBLE STUDENT PRESENTATIONS

How does short-selling really work? What are the costs? Can one always short-sell? Explaining the Palm Saga!
Discriminatory-price versus single-price auctions (-)
Continuous trading versus batch (call) auctions
Insider trading rules (legal versus economic view)
Margin requirements and the stock market crash in 1929
The burst of the Internet bubble in April 2000 – What were the causes for the burst according to the print media?
Competition between Exchanges/Trading Systems
Electronic Communication Networks (ECN)
Day trading and the Internet – Do day traders provide liquidity or take liquidity away?
Indices and the impacts on stock prices
Investors' Psychology – Behavioral Finance
Emerging markets – In what way are they different?
Tick size, preferencing and spreads (-)
The NASDAQ odd-eighths episode (-)
When does liquidity dry up? Why?
Transparency issues

David Skeie, our preceptor, has a lot of institutional background concerning financial markets. He will be happy to answer specific questions in his office hour.
You are required to submit (e-mail) preliminary drafts of your presentation (slides) on Friday prior to your presentation.

V. USEFUL/FUN MATERIAL ON THE INTERNET

Be a market maker:
http://www.academic.nasdaq.com/HeadTrader/head_trader.htm
http://LHarris.USC.edu/trading/DealerGame/Default.htm

Trade with play money first!
For example:
http://game.etrade.com