Market Microstructure and Electronic Trading

Finance 480, Fall 2011
College of Business Administration
University of Illinois at Chicago

Instructor
Asst. Prof. Dale W.R. Rosenthal daler@uic.edu
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Relevant Industry Experience
Proprietary Trader/Researcher. Equity Trading Lab, Morgan Stanley. 2000–2003
Strategist. Equity Derivatives, Long-Term Capital Management. 1995–2000
Intern Programmer/Analyst. Listed Equities (Block Desk), Goldman Sachs. 1993,1994

Summary
This course introduces the details (microstructure) of how financial markets work. This course also discusses electronic trading since it has spurred the study of microstructure — and has changed microstructure. After this course, students should:

1. recognize microstructure effects in markets;
2. know how electronic traders use microstructure; and,
3. trade and conduct research more thoughtfully and successfully.

Class Times Wednesdays, DH 170, 3:00pm-5:45pm (First class: 29 August)

Office Hours TBA

Coursework In-class quizzes, four homeworks, final.

Grading 40% class participation and quizzes, 30% homeworks, 30% final.

Texting/Phone Use I will deduct a quiz point each time I see you texting or using your phone.

Handouts Please print the week's handouts before each Tuesday and bring them to class.

Required Materials
Harris, *Trading and Exchanges*, 2003.
Hasbrouck, *Empirical Market Microstructure*, 2007.
Johnson, *Algorithmic Trading & DMA*, 2010.
Lefèvre, *Reminiscences of a Stock Operator*, 1923.
Readings posted at blackboard.uic.edu.

Optional/Reference
Campbell, Lo, and MacKinlay, *The Econometrics of Financial Markets*. 1997.
O'Hara, *Market Microstructure Theory*, 1995.
Lyons, *The Microstructure Approach to Foreign Exchange Rates*. 2001?
Securities Training Corp. *Series 55: Equity Trader Examination*. Study Manual 2006, Vol. 1.

Course Outline

0. Introduction
    (a) What Microstructure Is
    (b) What Microstructure Is Not
    (c) Why You Should Care
    (d) How Microstructure and Electronic Trading Relate
1. Market Types
2. Orders and Quotes
3. Trades
4. A Taxonomy of Traders
5. Continual/Continuous Market Structures
6. Models of Price Mechanics (2 weeks)
    (a) Roll Model
    (b) Sequential Trade Models
    (c) Strategic Trader Models
    (d) Inventory-based Models
    (e) Mechanical Models
7. Prices, Sizes, and Times
8. Liquidity and Transactions Costs
9. Market Metrics Across Time
10. Price Impact and Trade Scheduling
11. Electronic Markets
12. Electronic Trading Tools
13. Electronic Trading Strategies
14. Microstructure and Policy Issues