723-M1040 Security Market Microstructure

The Course Syllabus, Fall 2009

Classroom: TBA

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This course surveys recent contributions in market microstructure theory. Market microstructure is the study of the process and outcomes of exchanging assets under explicit trading rules. With explicitly specified asset trading mechanisms, optimal trading strategies for different classes of traders are identified, and the properties of the resulting equilibrium price and volume are examined.

It will start with a review of the benchmark rational expectations equilibrium (REE) models, and then look at the information-based dealership models.[1] The information-based models have by now considered both quote-driven and order-driven mechanisms.

It will then consider the theories of transaction prices and trading volume, and examine the roles of various classes of traders, including noise traders, brokers, financial analysts, and exchange specialists and imperfectly competitive market makers.

It will then consider the possible economic causes of market crash and the interactions between the underlying asset market and the derivative asset markets. Then various market features will be considered. This includes discrete pricing, various order forms, mandatory trade disclosure regulation, short sale constraints, call versus continuous markets, transparency, and price limits. Then, it will consider market manipulation by uninformed and by in-

[1] The finance literature suggests that trade can be motivated by either *informational* or *non-informational* motives. Two economic agents may want to trade because they have different endowments, different attitudes toward risks, or different time preferences. These are *non-informational* motives. Two economic agents with the same preferences and endowments may want to trade because they have different pre-trade beliefs about the future price and dividend processes of the traded assets. The differences in the pre-trade beliefs may stem from the heterogeneous prior beliefs about the dividend stream to be distributed by the traded asset, from the different interpretations (*differences of opinion*) about the statistical relationship between the intrinsic value of the traded asset and a (public or private) signal, or from the different private information the agents possess before trading. These are *informational* motives.

formed traders and models that involve trade occurring in more than one market. Finally, we will review the pros and cons of insider trading from the perspective of social efficiency.

Problem sets solving and the performances in the midterm exam and an in-class oral presentation will jointly determine a student's grade. A tentative schedule now follows.

Week	Topic
Week 1	Rational Expectations Equilibrium (REE) Models
Week 2	REE Models (continued)
Week 3	Classical Dealership Models
Week 4	Order-driven Mechanisms I
Week 5	Order-driven Mechanisms II
Week 6	Quote-driven Mechanisms
Week 7	Theory of Transaction Prices
Week 8	Theory of Trading Volume I
Week 9	Midterm Exam
Week 10	Theory of Trading Volume II
Week 11	Roles of Various Classes of Traders
Week 12	Roles of Various Classes of Traders (continued)
Week 13	Economic Causes for Market Crash
Week 14	Economic Causes for Market Crash (continued)
Week 15	Interactions Between Underlying and Derivative Assets Markets
Week 16	Insider Trading
Week 17	Insider Trading (continued)
Week 18	Final Exam