Professor Robert A. Miller
Carnegie Mellon University
Trade and Investment Strategy
45-871 M2 2020

SYLLABUS

Overview
The course is arranged around six connected topics, which form the basis for lectures. We start the course with a study of auctions, for they are the simplest examples of trading mechanisms. After working through an example, we describe the main kinds of auctions, investigate optimal bidding behavior, and compare revenue outcomes from using different auctioning formats. Procurement contracts are close cousins to auctions: they add a form of discriminatory pricing to competitive rivalry between bidders. Our second topic is electronic limit order markets, a trading mechanism that has not only taken over most financial exchanges, but is also paradigmatic of almost all markets. This leads to the third topic, an analysis of arbitrage, hedging, picking off risk, liquidity and valuation, and their links to ownership concentration and corporate governance. Our analysis of limit order markets and auctions shows show us how far economists and financial analysts and strategic consultants can explore the micro structure of markets. The fourth topic, the fundamentals of insurance, savings and investment, spotlights individual choice to better understand attitudes towards risk and inter-temporal decision making. We show how those attitudes ultimately determine asset portfolio choice in equilibrium in Topic 5, within the context of perfectly liquid markets where the investor is small compared to the market. Last, we discuss the complications introduced by using managers to control resources, as opposed to doing it yourself, noting of course that many of you will be placed in positions of management.

Trade and Investment Strategy combines theory, experimental methods and statistical inference to investigate strategic interactions in trade and exchange, including bidding, buying, selling, designing trading mechanisms, consumption based portfolio analysis, and reconciling the goals of investors and their managers.

Software
The experiments are based on Comlabgames, software for designing, running and analyzing experimental games over the Internet:

http://www.comlabgames.com/

Before the first session, please save this software on your desktop, by opening Mozilla Firefox, and downloading the module from

http://comlabgames.com/free0.4/index.html

Contact hours

My email is ramiller@cmu.edu. Virtual office hours are by appointment.

Assessment

Roughly speaking, this course treats theory and empirical methods as equally important. Two assignments count 20 percent each, a take home exam counts 50 percent, and the remaining 10 percent evaluates your personal trading strategies in on-line class experiments conducted in class.

Website

Lecture notes for the course, the experiments conducted in class, and details about the project requirements can/will be found at the course website:

http://www.comlabgames.com/45-871

Textbook

A draft of the text for this class, *Strategic Play*, written by Vesna Prasnikar and myself, is found at:

http://www.comlabgames.com/strategicplay

Schedule

Monday October 26:	Lecture 1 Texas CD Auctions
Wednesday October 28:	Lecture 2 Auction Formats
Monday November 2:	Lecture 3 Revenue Equivalence
Wednesday November 4:	Lecture 4 Procurement Contracts
Monday November 9:	Lecture 5 Limit Order Markets
Wednesday November 11:	Lecture 6 Liquidity and Market Dynamics
Monday November 16:	Lecture 7 Arbitrage Pricing
Wednesday November 18:	Lecture 8 Efficient Markets
Monday November 30:	Lecture 9 Lifecycle Consumption
Wednesday December 2:	Lecture 10 Uncertainty and Risk
Monday December 7:	Lecture 11 Portfolio Investment
Wednesday December 9:	Lecture 12 Governance
Monday December 14:	Games for Grades
Wednesday December 16:	Course Review