



Firms and Markets
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Firms and Markets (Summer 2007)

Course Description

The goal of this course is to give you some insight into how markets work. The first part of the course starts with the study of decision making by consumers and firms and concludes with a fundamental result in economics: a set of conditions under which markets function efficiently. In the second part of the course, we focus on situations when, for one reason or another, markets don't work efficiently. We will emphasize the importance of strategic behavior, as modeled by game theory.

Microeconomics (as the topic of this course is frequently referred to) is an important component of an MBA program. First, microeconomics focuses on specific dimensions of optimal firm decision making, such as pricing and entry and exit. Second, the formal economics perspective on business plays an important role in other areas of MBA study, such as finance or marketing. Finally, by studying public policy towards market failures, microeconomics highlights important factors conditioning firm strategy.

Some of the key concepts we will introduce include economic incentives, marginal analysis, opportunity cost (which costs matter), market efficiency (what does it mean for a market to work), strategic behavior (how to predict and respond to your rivals' decisions), and asymmetric information (what happens when others know something you do not). Our experience with students in prior years is that much of this is intuitive. But much is not, and our hope is that the combination of theoretical structure and practical examples will be useful in the years to come. It will not make you a success on its own, but it might give you an edge a few times when it matters.

Prerequisites

You are expected to be comfortable with basic algebra and calculus, including systems of equations, logarithms and NPV calculations, and derivatives.

Course Materials

- Lecture notes. They review the theory relevant to most classes. In a few pages, they outline and explain the conceptual issues for the day, define terms, give examples, and (where it makes sense) work through numerical problems. They are intended to complement the lectures rather than substitute for them
- Textbook. I require Michael Baye's *Managerial Economics and Business Strategy* (McGraw-Hill, 4th edition), which is available in the bookstore. There is also a study guide to accompany the text. Most students indicate that they find this book helpful. If you have an undergraduate background in economics, then you may find it less useful, in which case I may wish to wait before deciding whether to buy it. I also want to draw your attention to *Managerial Economics* by Samuelson and Marks (Wiley, 4th edition). This is a good auxiliary text for the course – it is a little more advanced in some parts, but is a little more comprehensive and is sensible on how to take concepts to data.
- Slides. The slides are a forecast of where the class will head, but if the discussion moves in another interesting direction we will generally let it run its own course. Also, I will amend the slides from time-to-time to keep the course up-to-date with current research and events. I will use blackboard to post the most up-to-date slides. I will also endeavour to post copies of all the board-work I do in class.

With the exception of the text, all of this material will be handed out the first day of class and posted on the course management system (<http://sternclasses.nyu.edu>).

Deliverables and Grades

The various “deliverables” in the course are designed to develop different skills:

- Class participation. It is important to integrate what you learn and be able to express it effectively. Moreover, there is a great deal of collective insight and experience in the class and we all benefit from sharing it.
Your grade will be based on such measures as the quality of your contributions, attendance, punctuality, and whether you are doing the problem sets, in addition to your overall citizenship in class.
- Individual problem sets. Problem sets emphasize quantitative applications of the principles and tools developed in class. They are due at the start of class. They will not

be graded, but will be marked with a check (and possibly a plus or minus). Making a bona fide attempt at problem sets will contribute to your participation grade.

Most of the problems are quantitative; some require a qualitative answer (the latter typically refer to mini-cases that my colleagues and I have written over the years) and for these there may be no definitive right or wrong, it is understanding the issues that is key. The problems marked “challenge problems” are harder than most and need not be perfect to get a check.

Your overall performance on problem sets will also serve as an informal tie-breaker if you are on the border between two grades. You should also note that the problem sets are the best preparation for the exams.

- Group projects. Generally more complex and realistic quantitative assignments that use and extend the principles and tools developed in class.
- Mid-term exam. Generally three or four problems, similar to the practice mid-term exams that I will distribute in due course.
- Final exam. Generally four or five problems, similar to the practice exam that I will distribute toward the end of the class. Note that this will be a take-home exam.

Your grade for the course will be based on your contributions to all of these deliverables, weighted as follows:

Class participation	15%
Individual problem sets (4)	“check+/-”
Group projects (2)	25%
Mid-term exam	25% (redemptive)
Final exam	35% or 60%

The mid-term is redemptive, in the sense that it only counts if it increases your grade. This means that if you do better in the final than the mid-term, then the mid-term will not count. The reason for doing this is that this course will move fast and I am sensitive to cater to students who need a little time to get their head around what economics is about. Ultimately I care about what you know at the end of the course: this grading scheme is consistent with that concern.

Final grades will follow the School’s guideline for core courses: no more than 35% of the class will receive A or A-. This guideline was instituted in response to student concerns that different sections of a course might be graded by different standards.

Dates and deadlines for all assignments can be found in the detailed course outline; a provisional version may be found at <http://pages.stern.nyu.edu/~jasker/MBAteaching.html>.

Exams and re-grading

Requests for a make-up exam must be made in writing (email) at the earliest instance. You are responsible for checking the midterm exam dates and avoid any conflict with other commitments. During an in-class exam, you are not allowed to consult class notes, books, or any other material. However, you may consult one page of notes (a standard-size sheet of paper written on one side). Questions about grading must be made in writing and no more than a week after the exams are returned.

Honor Code

The Stern community believes that honesty and integrity are necessary for rewarding academic and professional experiences. These qualities form the basis for the strong trust among members of the academic community (students, faculty, and administrators) that is essential for excellence in education. The Honor Code requires that each student act with integrity in all academic activities and endeavor to hold his or her peers to the same standard.

In this course, you may discuss assignments with anyone, but any written work submitted for a grade should be your own. On in-class exams, you may bring in and consult one piece of paper with anything on it you like, but your answers should be entirely your own work.

Help

There are times when a little help can get you past an obstacle. If you are stuck, send me an email (jasker@stern.nyu.edu) or stop by my office (KMC 7th floor, room 79). I try to respond quickly to email. My office hours are usually Monday 5-6pm and Thursday 9-10pm, but I am happy to answer questions any time you find me.

Firms and Markets: Outline and Calendar (Summer 2007)

This contains information for the two sessions of Firms and Markets I am teaching over the summer.

Session 1: Saturdays 05/12-06/23 (Priority to RED)

MODULE 1: MARKET FORCES

1. Class 1 : May 12

Demand. Sensitivity of demand to prices and income, elasticities, substitutes and complements, estimating demand.

Costs and Supply. Opportunity (marginal) costs, sunk cost and other cost concepts. The supply curve in competition.

2. Class 2 : May 19

Competitive markets. Equilibrium, Perfect competition, profits in competitive markets, sources of profitability, curves and shifts.

Monopoly pricing Monopoly pricing, Surplus, properties of industries, sources of market power, social costs of monopoly, competition policy.

Due at start of class: Individual Problem Set 1.

MODULE 2: ADVANCED REVENUE SCHEMES

3. Class 3 : June 2

Price discrimination 1. Differential pricing schemes, segmenting markets, avoiding arbitrage. Self-selection schemes.

Price discrimination 2. Self-selection schemes.

MODULE 3: IMPERFECT MARKETS

Strategy and games. Strategies and payoffs, normal and extensive-form games (tables and trees), best responses, Nash equilibrium, Prisoner's dilemma, win/win and win/lose games.

Due at the start of class: Individual Problem set 2, Group Project 1

4. Class 4 : June 9

Midterm examination (in class). Same format as the practice exam (3 problems, largely quantitative). You may consult one page of notes (a standard-size piece of paper with anything on it you like) and a calculator.

Hazards of price competition. Price setting in “commodity” markets: the “Bertrand trap” and how to avoid it.

Asymmetric information. What happens when the seller knows more than the buyer? When the manager knows more than the owner?

Auctions. Types of auctions; the winner’s curse in common-value auctions; auctions and alternative selling mechanisms.

Due at the start of class: Nothing

5. Class 5 : June 16

Competition and cooperation. Cooperative situations and how to produce them, trigger strategies, factors that make cooperation easier.

Product differentiation and positioning. The characteristics approach to consumer demand; product differentiation and price competition; strategic positioning games; differentiation strategies.

Entry and exit. Commitment and credibility, capacity expansion, product proliferation, long-term contracts. Predatory pricing and other exclusionary practices.

Due at start of class: Group Project 2, Problem Set 3

6. Class 6 : June 23

Networks and standards. What’s new about the new economy? Expectations and critical mass. Excess inertia and excess momentum. Path dependence. Strategic compatibility decisions. Public policy.

Wrap-up

Practice Problems + Questions

Final examination

MODULE 1: MARKET FORCES

1. Class 1 : June 26

Demand. Sensitivity of demand to prices and income, elasticities, substitutes and complements, estimating demand.

2. Class 2 : June 28

Costs and Supply. Opportunity (marginal) costs, sunk cost and other cost concepts. The supply curve in competition.

3. Class 3 : July 3

Competitive markets. Equilibrium, Perfect competition, profits in competitive markets, sources of profitability, curves and shifts.

Due at start of class: Individual Problem Set 1.

4. Class 4 : July 5

Monopoly pricing Monopoly pricing, Surplus, properties of industries, sources of market power, social costs of monopoly, competition policy.

MODULE 2: ADVANCED REVENUE SCHEMES

5. Class 5 : July 10

Price discrimination 1. Differential pricing schemes, segmenting markets, avoiding arbitrage. Self-selection schemes.

Price discrimination 2. Self-selection schemes.

Due at the start of class: Individual Problem set 2, Group Project 1

MODULE 3: IMPERFECT MARKETS

6. Class 6 : July 12

Strategy and games. Strategies and payoffs, normal and extensive-form games (tables and trees), best responses, Nash equilibrium, Prisoner's dilemma, win/win and win/lose games.

7. Class 7 : July 17

Midterm examination (in class). Same format as the practice exam (3 problems, largely quantitative). You may consult one page of notes (a standard-size piece of paper with anything on it you like) and a calculator.

Auctions. Types of auctions; the winner's curse in common-value auctions; auctions and alternative selling mechanisms.

8. Class 8 : July 19

Hazards of price competition. Price setting in "commodity" markets: the "Bertrand trap" and how to avoid it.

Asymmetric information. What happens when the seller knows more than the buyer? When the manager knows more than the owner?

9. Class 9 : July 24

Competition and cooperation. Cooperative situations and how to produce them, trigger strategies, factors that make cooperation easier.

Product differentiation and positioning. The characteristics approach to consumer demand; product differentiation and price competition; strategic positioning games; differentiation strategies.

Due at start of class: Group Project 2, Problem Set 3

10. Class 10 : July 26

Entry and exit. Commitment and credibility, capacity expansion, product proliferation, long-term contracts. Predatory pricing and other exclusionary practices.

11. Class 11 : July 31

Externalities, networks and standards. What's new about the new economy? Expectations and critical mass. Excess inertia and excess momentum. Path dependence. Strategic compatibility decisions. Public policy.

Wrap-up

Practice Problems + Questions

12. Class 12 : August 02

Final examination

Where in Baye are the Topics that We Cover in Class?

This is a guide to the textbook. It is designed to help you find the bits in Baye that are relevant for the topics covered in class. When you read Baye, use the lectures as a guide to what is important: in some bits Baye goes into more detail than I think is useful.

- Demand
Pages: 34-41, 71-89, 112-139 (this last section is a good example of where Baye goes into a little too much detail, at times)
- Costs
Pages: 43-50, 173-84
- Competitive Markets
Pages: 50-63, 260-273
- Monopoly
Pages: 231-252, 273-290, 392-396
- Advanced Pricing
Pages: 398-419

As you can see the organization of Baye is somewhat different from how we run through things in class. After topic 5 things diverge a little more.

- Auctions
Pages 449-459
 - Strategy and Games
Pages 347-359
 - Hazards of Price Competition
Pages 308-340 (but particularly 331-332)
 - Asymmetric Information
Pages 442-449
 - Competition and Cooperation
Pages 335-337, 361-374
 - Product Differentiation and Positioning
Baye is not helpful
 - Entry and Exit
Pages 466-482
 - Networks and Standards
Pages 486-492
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Where in Samuelson & Marks are the Topics that We Cover in Class?

This guide is designed to help you find the bits in S&M that are relevant for the topics covered in class. When you read S&M, use the lectures as a guide to what is important: Be aware that S&M is a little more advanced than Baye. Its great advantage is that it has sensible coverage about how to take the concepts we cover in class to data.

- Math Preliminaries
Pages: 66-71
- Demand
Pages: 80-96 (127-133 is advanced, but relevant to aspects of asset pricing theory in finance) (139-173 is a good introduction to estimating demand)
- Costs
Pages: 261-301
- Competitive Markets
Pages: 321-350
- Monopoly
Pages: 96- 117, 360-371, 492-499
- Advanced Pricing
Pages: 419-423

The organization of S&M is somewhat different from how we run through things in class. After topic 5 things diverge a little more.

- Auctions
Pages: 718-747
- Strategy and Games
Pages: 434-461 (484-489 is advanced, a technical aspect of formal game theory)
- Hazards of Price Competition
Pages: 408-415
- Asymmetric Information
Pages: 512-515, 632-645, 653-658, (675-679 is advanced) (591-610 is helpful background)
- Competition and Cooperation
Pages: 371-375,461-465
- Product Differentiation and Positioning
Pages: -
- Entry and Exit
Pages: -
- Externalities, Networks and Standards
Pages: 499-512