Econ 100B: Microeconomic Theory
Spring 2010
Class Information

Read the syllabus!

- Web: http://econ.ucsb.edu/~grossman/Econ100BS10
- Office hours: Tuesday, 12:30 - 1:30pm, NH 3049
- Materials:
  1. *Intermediate Microeconomics* by Hal Varian
  2. *Workouts in Intermediate Economics* by Ted Bergstrom and Hal Varian (*recommended*)
  3. iClicker
- Waitlist: https://waitlist.ucsb.edu/
Exams & Grading

- Midterm 1 (20%): April 20, in class
- Midterm 2 (20%): May 13, in class
- Final (50%): Weds., June 9 (here)
- Diagnostic quizzes (in section), section participation (10%): see syllabus for dates, first one next week!
Recipe for Success

- Attend the class, and ask questions that will help you understand better
- Do practice problems
- Attend and participate in section
- Come to office hours whenever you have questions, and do not wait until a week before an exam
## Teaching Assistants

<table>
<thead>
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Important Skills

To succeed in this class, you should be comfortable with

- Solving 100A-style utility-maximization problems
- Simplifying algebraic expressions
- Solving linear equations
- Solving systems of 2 equations w/ 2 variables
- Taking basic derivatives
Things you studied in Econ 100A

- An individual's consumption decision
- A firm's production decision

What you will study in Econ 100B

- Trade between consumers and producers in markets
- Requires: aggregating behavior of many consumers, producers
Should government regulate economic activity?

Politicians love to talk about this:

- “…I do believe that there is a role for oversight.” – John McCain (same interview)
- “A lot of the problems that are going on in our country now appear to have been related to lax regulation.” – Texas State Senator Steve Ogden (March 21, 2009)

Ogden is a Republican
Regulation: Good or Bad?

Clicker Vote

- A) We need more regulation
- B) We need less regulation
- C) Don’t know
- D) It’s complicated

This is an economic question... how do economists think about it?
Regulation
How do economists think about it?

Let’s rephrase the question:

- Under what conditions is government regulation of markets unnecessary/harmful?
- When is it needed/helpful?
- What kind of regulation is helpful and why/how?

More generally, what are markets supposed to do?
Under what conditions do they perform well and under what conditions do they fail?
Your goals for this course

- Understand basic theoretical framework we use to think about
  - If/how/when markets do & don’t “work”
  - What happens when they don’t & what should we do
- Develop analytic tools you can apply to specific economic questions, for example:
  - Does the health insurance industry need more or less regulation?
  - How will health care reform, e.g. the taxation of employer provided health benefits affect the labor market? Who bears the cost—employers or employees?
  - How can we save money by insuring more people?
  - What can we do to lower health care costs?
  - If there are things that can be done to save money, lower health care costs, why haven’t they already been done?
  - Who stands to gain/lose from various reform measures?
Equilibrium in well-functioning (competitive) markets (∼ 1/3)

Market failure (∼ 2/3)
- Monopoly & oligopoly
- Externalities (missing markets)
- Public goods
- Imperfect/Asymmetric Information (covered in Econ 100C)

Today and Thursday:
- Whirlwind recap of Econ 100A
- Uncertainty
Key questions from 100a

How do we think about rational choice?

- Utility function represent preferences
- Limited resources: budget imposes constraint
- Maximize utility subject to constraint.
Utility Functions

Example: Cobb-Douglas

- Utility function:
  \[ U(c_1, c_2) = c_1^\alpha c_2^{1-\alpha} \]

- Indifference curves:
Utility Functions

Example: perfect substitutes

- Utility function:
  \[ U(c_1, c_2) = c_1 + c_2 \]

- Indifference curves:
Utility Functions

Example: perfect complements

- Utility function:

\[ U(c_1, c_2) = \min (c_1, c_2) \]

- Indifference curves:
The budget constraint represents the frontier of consumption bundles affordable with income $m$.

Equation:

$$p_1 c_1 + p_2 c_2 = m$$

Graphically:
How does the consumer choose?
The consumer chooses an affordable bundle to maximize utility:

\[
\max_{(c_1, c_2)} U(c_1, c_2)
\]

subject to

\[
p_1 c_1 + p_2 c_2 = m
\]

Solution: demand is \( c_1 = D_1(p_1, p_2, m) \) and \( c_2 = D_2(p_1, p_2, m) \).
The consumer will choose a bundle where

- Algebraically:

\[ MRS = \text{price-ratio} \implies \frac{MU_1}{MU_2} = \frac{p_1}{p_2} \]

- Graphically:
Recurring Theme

We use this approach repeatedly

- Individual choosing consumption bundle
- Firm choosing production bundle (minimizes cost)
- Individual choosing consumption over time
Uncertainty about what?

- Behavior of others, future prices, wealth
- Disasters: Will my house burn down? Earthquake?
- Will the economy recover by next year? Will I find a job? Will my customers return?
- Will I get cancer? What a car hits me and I break my leg?
How do economists think about uncertainty?
- Using the same set of tools: constrained optimization
- Expected utility theory

What are rational responses to uncertainty?
- A portfolio of contingent consumption goods
- Buying insurance

Understand: some aspects of healthcare debate?
States of Nature and Contingent Plans

- **States of Nature:**
  - “car accident breaks leg” (a) vs. “no accident” (na)
  - Probability of: accident = $\pi_a$, no accident = $\pi_{na}$; $\pi_a + \pi_{na} = 1$
  - Accident causes loss of $L$

- **Contingent Plan:**
  - A state-contingent consumption plan: consumption level/bundle is different in each state (e.g. vacation only if no accident)
  - Contracts may be state-contingent (e.g. insurer pays only if there is an accident)
Next time

- State-contingent budget-constraints
- Preferences under uncertainty
- Insurance
- Diversification