Introduction

ECONOMICS

MACROECONOMICS
  Studies
  Aggregate Economic Events
  e.g. Business Cycles, Economic Growth

MICROECONOMICS
  Studies
  Behavior Individual Agents
  e.g. Consumers, Firms, Individual Markets
Consumer Theory

- Budget constraint
- Preferences and utility
- Choice
- Individual demand
- Market demand and equilibrium
Theory of the Firm

- Technology
- Profit maximization
- Firm supply
- Industry supply
Monopolies and Oligopolies

- What are the differences between monopolistic and competitive markets?
- What causes monopolies?
- Oligopoly
Externalities and Public Goods

- Do prices reflect the true costs and benefits of firms’ and consumers’ actions?
- Private goods and public goods: the free-rider problem
Example: Deregulation of Power Industry in California

Before deregulation:

- Pacific Gas & Electric was a **monopoly** regulated by the state
- State set rates and guaranteed return on investment to PG&E
- Northern Californians paid 50 percent more for electricity than national average
Deregulation in 1996

- Idea: allow for more *competitors* in production of electricity to bring prices down
- PG&E had to sell its power plants
The Market for Electricity

Generators → Utilities → Consumers
Transition period

- Concern that in **short-run** the number of power plants was fixed
- Thus, from 1996 to late 2000 state-mandated **price caps** kept prices charged by Utilities to Consumers low
- However, prices charged by Generators to Utilities were deregulated immediately
Electricity Consumption in California

Growth in Electricity Consumption since 1994

- Silicon Valley
- All California
Wholesale Electricity Prices

Cost of a kilowatt-hour of electricity

$0.00  $0.05  $0.10  $0.15  $0.20  $0.25  $0.30  $0.35

Jan-99  Apr-99  Jul-99  Oct-99  Jan-00  Apr-00  Jul-00  Oct-00

Northern California
Southern California
Now

Utilities are going broke: buy electricity at 30 cents (per kilowatt-hour), sell it at 5 cents

Generators are making large profits

In areas where price caps were removed (San Diego) prices tripled

Risk of power shortages
What went wrong?

No new power plants built after 1996:

- Not enough competition among Generators

Subsidized consumption of electricity:

- Consumers do not perceive real price of electricity (consume too much)
What about the Environment?

"There is this demand to create cheap power, but what about the externalities, water pollution, air pollution ... Older plants can produce cheap electricity but they pollute a lot more." (Eric Wesselman, Union of Concerned Scientists).
Course Organization

Web:
www.andrew.cmu.edu/course/73-250spring/micro.htm

Grades:
- 2 midterms (50%): February 19 & April 9
- Final (35%)
- 6 problem sets (15%)
Course Organization

- Textbook: *Intermediate Microeconomics* by Hal Varian & *Workouts*
- Recitations
- Office hours: TUE & THU 2pm-3pm
The Math You Need to Know

- Univariate calculus
- Drawing graphs of functions (in 2 dimensions)
- Finding maxima and minima of functions of one variable