Recap of market forms

<table>
<thead>
<tr>
<th>Market Form</th>
<th>Number of Firms in the Market</th>
<th>Quantity in Market</th>
<th>Entry Barriers</th>
<th>Profit Potential</th>
<th>Long-run Profit</th>
<th>Economic Efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perfect competition</td>
<td>Very many</td>
<td>Rare (if any)</td>
<td>Rare</td>
<td>Good</td>
<td>Zero</td>
<td>MC = MC, AR = AR</td>
</tr>
<tr>
<td>Pseudo-monopoly</td>
<td>Rare</td>
<td>Rare to be high</td>
<td>Moderate</td>
<td>Monopolistically high</td>
<td>Monopolistically high</td>
<td>MR = MC, AR &gt; AC</td>
</tr>
<tr>
<td>Monopolistic competition</td>
<td>Many</td>
<td>Widespread producers, high share of GDP</td>
<td>Monopolistically inefficient</td>
<td>Zero</td>
<td>Monopolistically high</td>
<td>MR &gt; MC, AR &gt; AC</td>
</tr>
<tr>
<td>Oligopoly</td>
<td>Few</td>
<td>Very high</td>
<td>Very high</td>
<td>Very high</td>
<td>Very high</td>
<td>Very high</td>
</tr>
</tbody>
</table>

Monopoly and economic efficiency

- Given that MC < MU/MB, this is inefficient
- Compared to perfect competition, monopolies have:
  - Higher price, lower output
  - Higher average costs
  - Less consumer surplus (and less producer surplus)

- Monopolies are not Pareto efficient; even monopolists would prefer a different system

Monopoly and economic efficiency (cont.)

- Possibly preferable to competition on basis of growth potential through innovation
  - Competition for short-term monopolies: rationale for patents
  - Possibility of reinvesting profits towards research and development
  - Short-run monopolies to stimulate lower costs in long run through learning-by-doing: rationale for infant industry protection
- Cost conditions may allow for only one firm

Barriers to entry

- Legal restrictions
- Patents
- Control of a scarce input
- Artificially high fixed costs
- Large sunk costs
- Technical superiority
- Economies of scale
- Illegal restrictions
Natural monopoly

- Depends on cost structure relative to demand:
  - Declining long-run average costs
  - High fixed costs
  - Low demand relative to firm scale
- Thus only a single firm can exist in the market if average costs are to be minimized
- Regulation can force a lower price than the monopolist would charge

Cartels

- Firms may band together to act as if they are a single firm
- They will produce the monopoly level of output in total, so from the point of view of the consumer, a cartel is equivalent to a monopoly
- The cartel members must decide how to divide up production and profits

Price discrimination

- Charge different prices to different customers
  - First-degree
  - Second-degree
  - Third-degree
- Price discrimination increases firm profits over charging a single price to all customers

Price discrimination (cont.)

- First-degree: different units of output sold for different prices, prices different from consumer to consumer (e.g., cars)
- Second-degree: different units of output sold for different prices; price schedule the same for all consumers (e.g., bulk discounts)
- Third-degree: different types of people pay different prices (e.g., student discounts, senior discounts)

Price discrimination (cont.)

- Price discrimination is Pareto efficient relative to a single-price monopoly
- Price discrimination may be necessary in order for a firm (or industry) to survive

Remedies to Monopoly Power

- Regulation (and deregulation): control ongoing monopolies
- Antitrust law and policy: break up or disallow monopolies
Regulation

- What is regulation?
- Objectives
- Tradeoffs
- Deregulation

What is regulation?

- Government agencies enforce rules about business conduct enacted by legislative and executive bodies
- Types of regulation include:
  - Price and/or quantity
  - Limiting market power
  - Proactive regulations
    - consumer protection
    - worker protection
    - environmental protection

What is regulation (cont.)?

- Regulation can occur at the federal, state, and local levels
- Federal regulatory bodies include:
  - Federal Communications Commission (FCC)
  - Federal Energy Regulatory Commission (FERC)
  - Securities and Exchange Commission (SEC)
  - Federal Reserve Board (FRB)
  - Environmental Protection Agency (EPA)

Objectives

- Improve economic efficiency through limiting market (monopoly) power
- Improve economic efficiency through internalizing externalities
- Universal access/service

Tradeoffs

- Improving current economic efficiency without eliminating all incentives for innovation
- Pricing low while keeping firms from shutting down

Tradeoffs (cont.)

- Marginal versus average cost pricing
- Cross-subsidization of one set of consumers by another set
- Price caps versus profit caps
Deregulation

- If market structure changes so that it can be competitive (perhaps contestable), may want to deregulate
- If objectives change, may want to deregulate
- Recent cases: airlines, banking, long distance telephone services

Antitrust law and policy

- What are the main antitrust laws?
- Disputed behaviors
- Tradeoffs
- Trends in enforcement

Disputed behaviors

- Price fixing among competitors
- Monopolizing trade
- Tacit collusion
- Predatory pricing
- Price discrimination in restraint of trade
- Tying contracts
- Interlocking directorates
- False or deceptive advertising
- Mergers

Tradeoffs

- Small number and large size of firms does not automatically imply monopoly power
  - Measure 1: Concentration ratios (e.g., % of industry output produced by 4 largest firms)
  - Measure 2: Herfindahl-Hirschman index
- Firms’ actions may be price and/or cost-reducing
- Antitrust enforcement actions are expensive for both the government and the firms involved
Trends in enforcement

- Relative consensus on HH index evidence (Dept. of Justice: < 1000 unconcentrated, > 1800 concentrated)
- Relative consensus on predatory pricing evidence (pricing below either marginal or average variable cost)

Trends in enforcement (cont.)

- New potentially anticompetitive practices have emerged
  - Bottlenecks (e.g. computer operating systems)
  - Bundling (e.g. software suites)
- Mergers happen in waves in part depending on strength or weakness of antitrust enforcement
- Concern whether firms can use the court system to discourage success and innovation by their rivals

Microsoft Case: Overview

- Case brought against Microsoft in 1998 by the U.S. under the Sherman Act (monopolization and tying)
  - Central issue was the bundling of Internet Explorer with the Windows operating system
  - The U.S. argued this made it difficult for other browsers to get market share
- Case was settled in 2001, settlement approved in 2004, expired in 2007
- Settlement required Microsoft to share its application programming interfaces with other companies

AT&T: Overview

- Bell Telephone was founded in 1877 by Alexander Graham Bell, inventor of the telephone, and his two partners
- First telephone exchange opened in 1878 in New Haven
- Western Electric acquired in 1882 as manufacturing arm of the Bell company
- AT&T incorporated in 1885 as a wholly owned Bell subsidiary to build and operate the original long distance telephone system

AT&T: Overview (cont.)

- Only Bell Telephone and its licensees could legally operate telephone systems in the U.S. until 1894 (when Bell’s second patent expired)
- Between 1894 and 1904, over six thousand independent telephone companies went into business in the U.S., and the number of telephones grew from 285,000 to 3.3 million
- AT&T continued to function as a legally sanctioned monopoly for long distance service
AT&T: Overview (cont.)

- Interconnectivity problems proved daunting (subscribers to different phone companies couldn’t call each other); most companies went out of business or were absorbed by Bell
- Antitrust suit brought in 1974 by the U.S. govt. led to breakup of Bell system in 1984 into AT&T plus seven regional Bell companies and discontinuation of AT&T’s monopoly
- AT&T’s market share fell from >90% in 1984 to <50% by 1996

AT&T: Overview (cont.)

- SBC, the former regional company Southwestern Bell, bought its fellow regional bells Pacific Telesis and Ameritech
- AT&T and SBC merged in 2005
- AT&T and Bell South merged in 2006
first we'll do a quick review of market forms and extend a little on that
then talk about why one might want to have the government intervene in markets
and talk about the form that intervention might take

[start on powerpoints]

note using the terms market power or monopoly power to refer to any case where the demand
curve is downward sloping for a firm, not just the (rare) pure monopoly case

note some firms are pretty darn large: hard to imagine a really large firm doesn't have some
market power (though it is possible) (then show third slide of countries as big as nations)

let's look at the largest firms list, the Fortune 2010

show the full formula for the HHI: http://en.wikipedia.org/wiki/Herfindahl_index

info on current state of cellphone industry merger (AT&T and T-mobile) including market
shares:

current browser shares

note irony that AT&T and Verizon are taking over the cell phone market!