COMPETITIVE FORCES

Context and concepts
- Context: How are some firms able to remain successful over long periods of time? Why don’t others enter their businesses, imitate their methods?
- Concepts: competition, monopoly, Herfindahl index

Some industries

<table>
<thead>
<tr>
<th>Industry</th>
<th>Region</th>
<th>HHI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pharmaceuticals (3254)</td>
<td>US</td>
<td>446</td>
</tr>
<tr>
<td>Motor vehicles (3361)</td>
<td>US</td>
<td>2506</td>
</tr>
<tr>
<td>Wholesale banking</td>
<td>World</td>
<td>716</td>
</tr>
<tr>
<td>Semiconductors (33413)</td>
<td>US</td>
<td>1080</td>
</tr>
</tbody>
</table>

Issues:
- What’s HHI?
- What’s the appropriate region?
- What’s the appropriate industry?

Industry taxonomy

| Number of Firms | \(\text{Many}\) | \(\text{Competitive}\) | \(\text{Oligopoly}\) | \(\text{Monopoly}\) |
|-----------------|----------------|-------------------------|----------------------|

Strategic Interactions Among a Small Number of Players

Competitive forces

Things that make it hard to make above-average profits:
- Lots of competitors, none of who is large enough to affect the market price
- Homogeneous product
- Perfect information about price and quality
- Free access to technology
- Free entry

An industry with these properties is “perfectly competitive.”

Perfect competition: demand

In a competitive market, firms are small relative to the market and face (from their point of view) infinitely-elastic demand curves; they behave as “price takers.”
Perfect competition: supply
- Each firm’s supply curve is its marginal cost curve.
- Industry supply is the horizontal sum (add quantities at each price)

Equilibrium: short run
(In this particular short-run equilibrium, firms are making positive profits.)

Equilibrium: long run
Positive profits on the previous slide generate entry. As new firms enter, the supply curve shifts right until the industry supply function reaches S’ (and profits are zero).

Competitive equilibrium
- Eventually each firm makes zero (economic) profit
- Production is efficient: each firm produces at minimum average cost
- Efficient allocation of resources: higher or lower market output would imply lower welfare (profits plus consumer surplus) (the “invisible hand” at work)

Competition and profit

The invisible hand
"We’re a nonprofit organization—we don’t intend to lose, but we aren’t."
Theory and reality

Competition makes it difficult to sustain above-average profits: profits attract competitors.

What makes these firms consistently profitable?
- General Electric
- Toyota
- Novartis
- Microsoft
- Dell

Social cost of monopoly

Social cost of monopoly: total surplus (profit + consumer surplus) is lower, not enough resources allocated to the industry.

Merger control

- US: Department of Justice, Federal Trade Commission
- EU: European Commission (competition commissioner)
- With global markets, national policy may be inadequate
- Some recent cases:
  - Staples / Office Depot
  - BP / Amoco
  - Boeing / McDonnell Douglas
  - Time Warner / EMI
  - ?? Can we discuss??

Measuring market power

- $C_i$ = combined market share of $i$ largest firms, eg, $C_4$
- $HHI = \text{Herfindahl index, } HHI = 10,000 \sum s_i^2$
- Industry Intensity
  - perfect below 2000 fierce
  - oligopoly 2000-6000 varies
  - monopoly/ dominant firm 6000 or above light
- HHI often used to guide competition/merger policy
- Richard Gilbert’s license plate: HHI 1800

Monopoly and elasticity

Monopoly power is limited by the elasticity of demand

Monopoly regulation

If you’re stuck with a monopoly (for example, scale economies make a single firm the most cost-efficient), what do you do?
- Solution 1: price at marginal cost and subsidize firm
  - Problem: measuring cost, regulatory “capture”
- Solution 2: average cost pricing / rate-of-return regulation
  - Problem: kills incentives for cost reduction
- Solution: price-cap regulation
  - High-powered incentive scheme
  - Problem: can regulator commit to cap?
  - Service/product quality

Bottom line: there’s no foolproof solution
Essential facilities

- In recent years, policymakers have added competition to parts of what were once thought to be natural monopolies:
  - Long distance telephony, airports, electricity generation
- The "essential facility" is the remaining monopoly
- This raises additional questions:
  - Should vertical integration be allowed for the supplier of the ef?
  - What access do competitors get?
  - How to regulate access price?

Takeaways

- Competition tends to eliminate above-average profits
- Key ingredients: many firms, free entry and exit.
- Nevertheless, some firms are consistently profitable.
- Most countries have laws that support competition. Why? Because monopolies lead to an allocation of resources that is worse for society as a whole, and esp for consumers.
- Globalization makes it increasingly difficult to make policy at the national level.