Competitive Industry

- Recall supply-demand diagram showing:
  - Increase in all firms’ MC schedule by $1/unit is passed through to an extent $d/(d+s)$
    - $d$ is (absolute value of) slope of demand curve
    - $s$ is slope of supply curve
      - Exercise: could use elasticities interchangeably
    - In long run (maybe short run) expect $s << d$, so near 100% pass-through
- Cost change for just one price-taking firm is not passed through
- Change in fixed costs passed through in long run (as change in min AC), not in short run
Monopoly

• Last time showed:
  – If constant MC, linear demand, 50% pass-through of change in MC
  – If constant elasticity (>1), more than 100% pass-through
    • [Why the second calculation doesn’t always give the answer…]

• General result?

Monopoly pass-through in general

\[(\varepsilon - 1)p = \varepsilon c\]
Elasticity of elasticity of demand

• Let $E$ be $\frac{p \, d\varepsilon}{\varepsilon \, dp}$

Then the answer is...

$$\frac{dp}{dc} = \frac{\varepsilon}{\varepsilon - 1 + E}$$
How can we check?

• Constant elasticity certainly implies E=0
• Formula is correct then
• Can you think of other checks?
  – Calculate $\epsilon$ and E for linear demand

What does that tell us?

• Little hope of knowing E in reality
  – whereas we can often estimate elasticity
    • From changes in quantity in response to price changes
      – Assuming price changes not correlated with demand shifts
    • From Lerner equation
      – Assuming the firm knows something about its elasticity
• So: monopoly pass-through highly unpredictable
  – Can easily be small
  – Can easily (yes!) be well over 100%
  – Never negative (exercise--don’t use the E formula)
  – Monopoly may not obsess about getting p just right
    • Recall: monopoly profit hill is flat on top
    • Does the monopoly know its E?
Effect on firms

- Asked about effect on downstream buyers
- But how much do firms care about cost increases when there is pass-through?
- “Monopoly can just pass it through”

Effect on competitive firms

- Cost effect: lose $Q_{dc}$
- Price effect: gain $Q_{dp}$
- Why can we calculate as if firm keeps $Q$?
- Consumers lose $Q^*_{dp}$
- So firms plus consumers total lose $Q^*_{dc}$
Effect on Monopoly

• Monopoly loses $Q^* \ dc$
• Why not a countervailing price effect?
  – Balanced by quantity effect—not chosen optimally
  – Monopoly could have changed price/output before, so that doesn’t help much
• Consumers also lose!
• Total loss more than $Q^* \ dc$
  – Maybe much more… more than twice…
  – No simple adding-up as in competitive case

Who suffers from cost increase

FTC-Rambus and the rules of standards organizations
• Firms as agents for consumers in getting low input prices
• Private antitrust cases: rules on who can get damages
  – Illinois Brick rule: indirect buyers can’t
    • Subject to “repeal” by states; some qualifications
  – Hanover Shoe rule
    • Direct buyers can, even if plausibly not harmed much
• Is the Supreme Court stupid or smart?
  • Do such rules really aim to get money to the “true” victims?
Next Topic

• Cartels and collusion
• Read CP chapter 5, 122-150