Oligopoly I

Economics 121
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Recall Theme 1

• Where a market lies on spectrum from perfect competition to monopoly
• Usually expressed in price terms
• Lerner index
  – 0 in perfect competition
  – 1/e in monopoly
  – where more generally?
More competitors better?

• Lerner index (and deadweight loss, etc.) as function $L(N)$ of number of firms
• Will discuss empirical (statistical) evidence about level and shape of $L(N)$ function
  – $L$ certainly depends on other things too
• First, some theories that predict $L(N)$ function
  – Why have theories, not just evidence?
    • Evidence not always clear
    • Clarify expectations of effects of policy

The Cournot Model

• Each firm sets output given others’ outputs
  – Actual and expected: subtle issue
  – What if I surprise them and change my move?
• Why?
  – Capacity choice, with usage cheap
    • Paper, airlines, DRAM
Qualitative Features

- Each firm’s residual demand curve has the same slope as market demand!
  - Unrealistic as metaphor outside capacity case
- But that implies higher elasticity
- With N firms, residual elasticity Ne
  - share s implies residual elasticity e/s (s<1)
- Hence markup equation
  - Even though not price-setting
  - Asymmetric case: interpret?

Asymmetric Cournot

- Each firm’s Lerner equation
- Share-weighted average gross margin H/e
- Herfindahl index of concentration, H
  - In symmetric case, H=1/N
  - Deal with small firms, asymmetry…
- DOJ/FTC Horizontal Merger Guidelines
  - Lawyer-style H is 10,000 times the size
  - Highly concentrated: 1800
  - Unconcentrated: 1000
Consistent with standard views

• More firms in a market lower price/margin
  – Bigger effects at first
  – Always some effect
• A good handful of firms is sort of enough
  – Deadweight loss proportional to \( (H/e)^2 \)
  – Worry with say 6 or fewer
    • Modern merger policy more laissez-faire than that

Is it right?

• In capacity market with cheap usage
  – Cournot does describe strategy spaces
  – But assumes one-shot behavior
    • One-shot, short markets
    • OK anyway if not too concentrated??
• In price-setting markets
  – Cheap capacity, expensive usage
  – Not realistic descriptively
  – Do predictions sort of work anyway?
• Entry? Market boundaries?
Use of model for empirical

• If Cournot model were right
• And if we tried to test/estimate relationship between just N and L
  – We’d find unconvincing results
  – Reason: it’s LNe, not LN, that the model predicts to be constant across industries
• Model tells us what to look at empirically

Reading

• CP chapter 6 through page 170
• Note typo in equation (6.2)
  – Second = should be –
• Why was discussion today so much simpler?
In-class exam on Thursday

• Bring a bluebook
• Closed-book exam
• Calculators OK but shouldn’t be needed
• Covers lectures and readings up to now
  – That includes today’s lecture, but not the reading just assigned