

“Collusion”

Econ 220B

Spring 2008

Joseph Farrell

What is “collusion”?

- For simplicity, talk about prices
 - Market division, payments to exit
- Legal treatment: “agreement”
 - Reasonable? Sometimes irrelevant, but BMI...
 - Ineffective? Affects penalty, not liability
 - Fuel surcharges
 - Substantive effect of non-binding “coordination”?

How much “can oligopoly collude”?

- Most economics literature assumes oligopoly “can” (will?) sustain p
 - if
 - only if
- there’s a subgame-perfect equilibrium with p on the equilibrium path

Answer to that question

- Can support p in SGPE if and only if temptation to cheat not too great relative to credible punishments
- Game theory: if little enough discounting, near-minimax punishments are “credible”
- Shares and discounting
 - Qualitatively “seems right” but quantitatively not

Much more...

- Barriers to entry
- Capacity constraints
- Information flows
- Timing and rules
 - NASDAQ
 - Airlines

How to run a cartel?

- Market division seems more tempting than price coordination
 - Agreements not to compete: efficiency rationales
- Don't use Draconian punishments
 - Genesove and Mullin, AER

What's wrong?

- Cartel must address several questions; that's only one
- Coordination
 - This is where lawyer focus on “agreement” may fit in
- Joining, if not pivotal
 - Sum of reservation payoffs
- Experimentally, SGPE not even necessary
 - “Excess” altruism
 - “Excess” vengefulness

Does cheap talk get industry to profitable SGPE?

- If otherwise would do SGPE 0, Pareto-dominated by SGPE 1, then
- If rivals “propose” SGPE 1,
 - Sensible to “agree”
 - Then expectations focus on SGPE 1
 - So it will be played
 - Hence sensible to propose it

Renegotiation

- If talk does that ex ante, what does it do following defection?
- SGPE answer: Nothing—continue as agreed
- More plausibly: does (some of) what ex ante talk did
- What if can't commit to SGPE (in subgame) that is Pareto dominated by another that you “know how to” agree on?

Renegotiation-proof SGPE

- Continuation equilibria not Pareto-ranked
- Payoffs supportable by this: Need another set of payoffs such that:
 - “Punisher” is better off, if defector goes along;
 - “Defector” made worse off even if he cheated on punishment
- Examples: Cournot, Bertrand
 - Farrell-Maskin, GEB 1989

Quasi-symmetric WRPE

- Appealing results
 - Cournot: can collude perfectly with up to 9 firms
 - Bertrand: can collude perfectly with 2
 - Can collude imperfectly with more firms
 - Contrast SGPE Bertrand
 - converges to competitive outcome
- Just a coincidence?

What if give lawyers more respect?

- Goal isn't Walrasian pricing?
- Rather, (direct) goal is the core
 - “The competitive process”
 - Of course, won't actually get there
- FTT proposal: Mustn't thwart formation of potential buyer-seller coalition(s) that block the status quo
 - “Freedom to trade”

FTT and collusion

- Given firm 1's high price, firm 2 has selfish incentive to offer there's a profitable price for firm 2 that customers prefer
- 2 will offer it unless bribed or threatened
 - How explicitly?

The core in antitrust

- Telser, Bittlingmeyer
 - Core can be empty
 - If so, what happens if coalition formation free?
 - What should antitrust do?
- ?more fundamental
 - Blocking coalitions are usually progress
 - Incentive for incumbents to thwart

Collusion: What to do?

- Go after “agreements” with wiretaps, etc.
 - Informants, plea-bargaining
- Keep track of margins, investigate/punish if “too high”?
 - Posner?
- Relative performance schemes
 - Patent by Lundgren?

Leniency policy

- The surprise-attack game
 - Relationship to prisoner's dilemma?
- Resonance among ways cartel may break down
 - Great research topic (I think)
- Does the policy work?
- Does it encourage new cartels?

Leniency?

- Restitution and civil damages
- International coordination?

Damages

- “But-for” world: discuss in Lysine
- Can ask: what if buyers take prospect of damages into account
 - Cute model in Whinston ch. 1
- Proper mix of public and private enforcement?
 - Anglo-Saxon legal system