Two approaches to oligopoly

• Imperfect competition
  – Cournot
  – Differentiated products (Hotelling)

• Imperfect collusion
  – What does that mean?
Cartel: shared monopoly

• “Our competitors are our friends. Our customers are the enemy.”
  – ADM executive participating in lysine cartel
• The fundamental prisoner’s dilemma game among competitors
  – How are such games “solved”?
• Agreements not enforceable
  – In fact, illegal…
  – Honor among thieves (E. Leonard)

When can a cartel be stable?

• Not too much incentive to “cheat”
  – Recall: agreements not enforced by courts
• What is the incentive to cheat?
  – Assume all others follow the agreement
  – Selfishly, should you?
  – Checking whether “all follow agreement” is an equilibrium or not
Incentive to Cheat

- Presumably short-run incentive to cheat
  - Maybe not quite… NASDAQ?
- What can overcome that?
  - Downside comes later
    - Retaliation
    - Breakdown of agreement
  - We can say something even if retaliation is “worst credible”

Worst Credible Retaliation

- You can always just exit
  - Sopranos?
- Measure other payoffs relative to exit
  - So exit is zero payoff
- Payoff under agreement?
- Payoff from cheating?
  - How long will it last?
- “Overall” or time-weighted-average payoff
What does this suggest?

• Suppose same products, no capacity limits
• Then cheating could give N times agreement
• Implies limit on N relative to discounting
  – At that level, fits with what we believe is true
• Some numbers
  – Much more going on

Three Policy Responses

• Anticompetitive contracts not enforceable in court
  – Denies powerful means of resolving prisoner’s dilemma
• Negotiating anticompetitive agreement highly illegal
• Leniency policy
  – The surprise-attack game
    • Even if all want peace, unstable if first strike is huge advantage