Chapter 15: Collusion in Practice

Learning Objectives:

Students should learn to:

1. State factors that make collusion likely to occur.
   a) potential for monopoly profit
   b) low costs of reaching an agreement such as a small number of firms, high concentration, similar marginal costs of production, and product homogeneity
   c) low costs of maintaining an agreement such as frequent interaction
   d) stable market conditions
2. Understand how firms can use pricing mechanisms such as basing-point pricing, most-favored-customer clauses, meet-the-competition clauses, and the like to help maintain price fixing agreements.
3. Explain some of the difficulties for regulators in detecting collusion and why asymmetric information exacerbates this problem.
4. Understand the complicated role that leniency/amnesty policies play in preventing and prosecuting cartels and appreciate the use of experimental methods in economic research.

Suggested Lecture Outline:

Spend one fifty-minute long lecture on this chapter.

Lecture 1:

1. Factors that encourage formation and maintenance of cartels
2. Detecting collusion and policy
3. One or two case studies

Suggestions for the Instructor:

1. In the section on where collusion is most likely to occur try to present examples of each situation. One can either use actual industry examples or make up a cartel involving the students (hypothetical cartel of gasoline stations in the local community). The idea is to get the students thinking about whether they could pull off a cartel in various circumstances.
2. Stress the ideas that regulators almost always have less information than the people they are trying to regulate. Another good example is the local utility.
3. Discuss at least one case study.

Solutions to End of the Chapter Problems:

Problem 1

In an industry with high concentration, a small number of firms control a large part of the market. This lowers the transaction cost of reaching and maintaining a cooperative agreement.

Problem 2

Review the proofs.

Problem 3

The fence companies can agree upon a high cost winning bid at which any one of them would make a profit. A each procurement auction, one firm can be designated to win at the pre-selected winning bid while others submit offers to work at an even higher cost. The profits can be shared by rotating the identity of the winning bidder about each auction. Alternatively, the companies can use an approach like the one described for the real estate auction in the last chapter.

Problem 4

Sealed bids by themselves tend to make collusion more difficult as they limit the amount of communication firms can do and make detection of any cheating more difficult. The practice of announcing the winning bid as well as the winning bidder undercuts this effect and makes collusion more likely. When the winning bid is revealed, everyone will know if the winner played along with the cartel or not.

Problem 5

The features of NASDAQ that facilitate collusion are:

1. Asks and bids are public knowledge, making it easier to detect a cheater.
2. The product is homogenous and there is a convention of setting prices in increments of eights of a dollar.
3. Very short time difference between trades, making retaliation against a cheater swift. Also, short time difference between trades makes profits from cheating smaller.
4. NASDAQ's Preference Trade rule, which specifies that a dealer who does not post the insider spread can nevertheless receive preferenced orders, provided he / she matches the best inter-market price. This reduces incentives to undercut prices.

Policy first needs to recognize that collusion can happen in this market despite the large number of traders. Policy makers may wish to revisit practices such as the Preference Trade rule.

Problem 6

OPEC is likely to be more successful than CIPEC, because

(1) There is very little substitute for oil, whereas aluminum is a substitute for copper in various products.

(2) OPEC members control 2/3 of the world's oil reserve, whereas CIPEC members control only 1/3 of the world's copper reserve. Therefore, competition from non-cartel members is larger for copper than for oil.

(3) One country, Saudi Arabia, controls over 70% of all OPEC production, the largest member of COPEC, Chile, controls about 40% of COPEC production. Thus the transaction cost for reaching and maintaining a collusive agreement is lower for OPEC, than for COPEC.

Problem 7

Since the marginal costs of the firms differ, a uniform 20% output reduction cannot maximize the cartel's profit. The reduction should be greatest where the marginal cost is highest.

Problem 8

An excess capacity makes it easier for the firms to "punish" a "cheater" severely. Also, in case the cartel breaks down, an excess capacity makes the post cartel profits lower. Therefore, an excess capacity reduces the incentives to cheat on a cartel agreement, facilitating the maintenance of the cartel.

Problem 9

The main effect of either change is to increase the region in which collusion happens either with firms never revealing it or revealing it when there is an investigation. That is, it moves the curve dividing the CNR and NC regions to the northeast so that the region of no collusion shrinks. As the equation (15.19) makes clear, lowering F increases the payoff from pursuing a strategy of colluding and not revealing. Similarly, that equation also shows that raising ρ increases the gain from colluding both with an intent to reveal and without it.