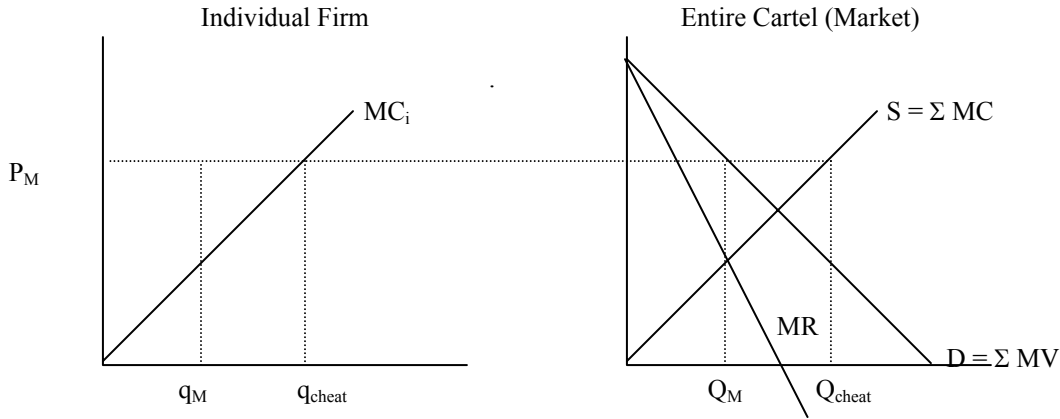


Cartels – an application of price searchers

A cartel is separate ownership of units of production whose owners collectively agree on a price and quantity for the group of member firms, a.k.a. price fixing agreement. The idea is to restrict output, which raises prices, thus leading to higher producer surplus (profits). A cartel is a group of producers who attempt to collectively act as a price searcher.



Essentially, the cartel will collectively attempt to act like a price searcher. It will maximize cartel profits by selecting Q where $MR = MC$ (here these are actually the sum of all the firms marginal cost curves). Thus, the successful cartel will choose P_M and Q_M above (right), the same quantity of output that a single price searcher would choose.

However, cartels are inherently unstable. When the cartel determines what Q_M it will produce, it must divvy up production amongst the member firms. In this case, the individual firm is assigned to produce q_M (above left). However, consider the individual firm's incentives. It is selling q_M units, receiving at price of P_M , which as you can see, is much larger than marginal cost of producing q_M . It is earning profits producing the q_M th unit (that's the point of the cartel), but it was also continue to earn even more profits if they expand their output to q_{cheat} (assuming none of the other members cheat, a dubious assumption). Individually, they have the incentive to produce until $P = MC$. They will want to expand output to q_{cheat} .

However, every other individual member of the cartel also has an incentive to do the same (to cheat as well). For all individual firms, $P > MC$, just as it is for the first firm. They all have an incentive to increase output. If they all (mistakenly) assume that no other member is cheating, they will all find it in their interest to expand output to q_{cheat} . However, if all firms cheat, the total output in the cartel rises significantly, in this case out to Q_{cheat} . Not only are the higher profits eroded, the cartel is actually losing money now ($MC > P$) at Q_{cheat} .

Thus, the cartel will likely fall apart (collapse), and the industry will return to the competitive (price taker) outcome, which is not labeled, but is the intersection of the supply and demand curve, our standard (P^* , Q^*).

OPEC (The Organization of Petroleum Exporting Countries - oil) is probably the most visible example of a cartel. While they were successful in raising prices in the late 1970s and early 1980's, they haven't been very successful on the whole, though they have some limited success as of late. OPEC is not an illegal cartel, and as such, is interesting to watch. They literally post meeting minutes on their web page. They announce what production will be and announce how they will divvy up the production amongst members. Another example of a successful cartel is DeBeers, which controls approximately 80% of the diamond production in the world. You will get to read about some of these in Miller, Benjamin, and North. If you ever get to read about DeBeers, check it out, its real interesting stuff.

How do cartels overcome this incentive to cheat?

Obviously, to be successful, a cartel must somehow overcome this incentive for each individual firm to cheat by expanding output. Why not write a legal contract? Cartels are illegal in the United States and as such, it is impossible for firms that want to engage in forming a cartel to sign binding contracts to restrict output. Such a contract is unenforceable, as to attempt to enforce the contract, the members would have to reveal they are breaking laws (this is the same reason you can't sue your drug dealer for giving when he burns you on a coke deal). OPEC and DeBeers are not illegal (they are not in the US), yet OPEC still has trouble enforcing their agreement. DeBeers does well, but its not easy. Did you catch 60 Mintues on diamond mines a few months ago?

Most cartels can't overcome this incentive, and thus fail. However, of the cartels that are actually effective at restricting output and raising prices, state and national government (via laws) enforce the great majority of them. Attorneys, doctors, taxi-cab drivers, hair stylists, all can be viewed as cartels in one form or another (Bar association, AMA, taxi-cab medallions, certifications, etc.). Another cartel you're exposed to on a regular basis is the NCAA. MLB, NBA, and the NFL – all cartels. (Can you get together 24 baseball players and join the National League? This is sad, because you'd probably be better than the Brewers. The high profits earned by successful cartels have a tendency to encourage firms to enter the business.)

It will be easier to enforce an agreement if you can monitor your members and see who is cheating. If OPEC members can count the number of oil tankers leaving Iraq, and can effectively sanction Iraq for cheating, it can enforce the cartel. Historically, this has been proven difficult. How do you sanction Saddam if you don't have the US to drop some bombs on Iraq?

It will be easier to do this monitoring if there are a small number of producers (members). As the number of producer increases, it is harder to determine who, if anyone, is cheating. I am getting close, if not crossing, the scope of 211 here, but I'll keep yapping.

If demand conditions tend to be stable, it will be easier to enforce a cartel agreement. Consider the opposite case. If prices are extremely unstable, it is difficult to interpret whether a decrease in the price of the good is a result of cartel cheating, or just some other ceteris paribus condition change. When prices are actually stable, price movements convey more information, and thus can be used to determine if cheating is occurring.

Other characteristics that make cartelization more likely are: industries in which there is little customer turnover (losing customers would be a sign of cheating), information on prices is freely available (if not, cheaters can offer secret price discounts), homogeneous products,