

SECTION NOTES 22

Covering material from Lecture on April 13th

CLASS OUTLINE

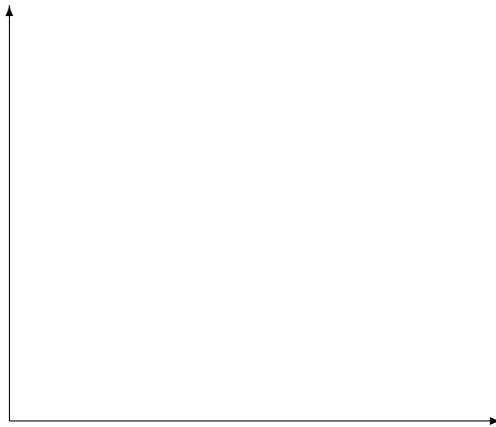
1. Monopolistic Competition
2. Cartels
3. Nash Equilibrium

1 Monopolistic Competition

Monopolistic competition happens when firms are large enough to face a downward sloping demand, yet there is free entry. This implies two main things:

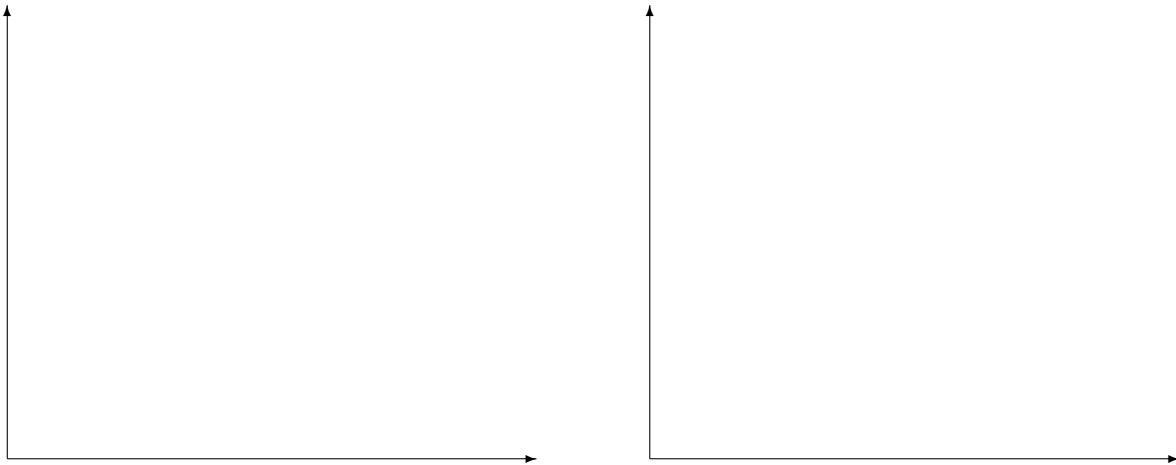
1. There will be no long-run profits.
2. Price can be set above Marginal Cost.

To see this graphically, let's focus on the residual demand curve (the demand curve seen by the single firm once all other firms have produced) and observe zero profits with market power:



2 Cartels

As we saw in class, Cartels exist when a group of oligopolists act cooperatively in a market. They do this in order to maximize profits in the industry and then share them amongst each other. But also, as we saw in class, there is an incentive to cheat. This is because any single producer can increase their individual profits by expanding output, which would lower the profits of all other producers. To make this explicit, assume there are perfect barriers to entry, and there are currently 5 identical firms in the market. Each has a cost function given by $C(q) = \frac{5}{2}q^2 - 20q + 90$, and market demand given by $P = 100 - Q$. Find the equilibrium cartel solution by graphing the individual cost curves on the left panel and the market equilibrium on the right panel. Then show why there is an incentive to cheat for each individual firm.



3 Nash Equilibrium

A nash equilibrium (NE) exists between two individuals who are acting non-cooperatively when both of their actions are most preferred given the action of the other. To see if we are at a NE simply ask the same question for each individual: "Given what the other guy is doing, do I want to deviate from my current choice?" If the answer is no for both individuals, then it's a NE.