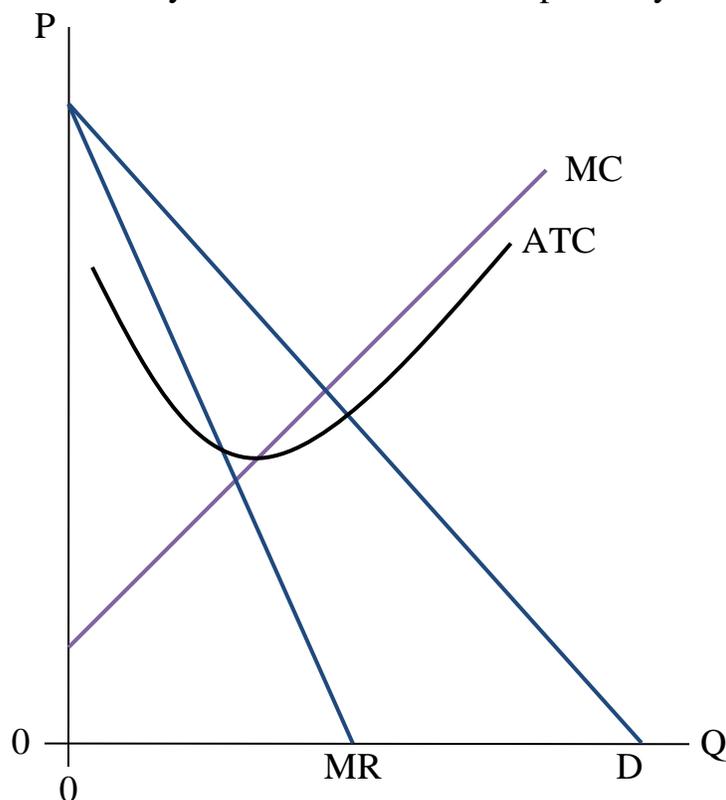


LECTURE 31: MONOPOLY II

I. Monopoly Model

- a. In competition, we used a perfectly elastic demand curve to illustrate that each firm is a price taker.
- b. Now, that is not the case. Monopolies have *price setting power*, they can influence the price by altering how much they produce.
- c. Thus, we make a demand curve downward sloping (the previous price line is technically a demand curve that is perfectly elastic).



- i. The MR curve always bisects the demand curve.¹ This makes all the difference in a monopoly.
- d. How do we proceed? We start the same way we always do.
- i. Find where $MR=MC$; that's how much we produce (Q^e or equilibrium quantity).

¹ How do we know this? Math. Marginal revenue is the same thing as “change in total revenue” which is the same thing as a derivative. The demand curve can be expressed as $P=a-bQ$; total revenue is then $PQ=aQ-bQ^2$. To find marginal revenue, take the derivative with respect to Q : $P=a-2bQ$. Note that the slope is twice as much as the demand curve, bisecting the angle the demand curve makes.

- ii. Now see how much we get to charge but seeing what the demand curve is willing to pay at that quantity (since before the price was the same thing as the demand curve which was the same thing as marginal revenue, this step happened automatically). Let's call this P^e (equilibrium price).
- iii. Check how much this production is costing us by referencing ATC. Call this C^e (equilibrium costs).
- e. Recall when we did quotas and the constraint on quantity created deadweight loss. We have the same story here (recall another way to think of demand is the sum of marginal benefits).

