

# SECTION NOTES 17

Covering material from Lecture on March 14<sup>th</sup>

## CLASS OUTLINE

1. Rent vs. Profit
2. Quota vs. Tariff
3. Introduction to Monopoly

## 1 Rent vs. Profit

There appears to be a lot of confusion over the difference between rents and profits (and rightfully so!). The conundrum becomes clear in the context of perfect competition where we disallow profits in the market, yet positive rents may still exist. The differences are subtle, but important.

Rents are a specific advantage or “right” that a specific individual, or firm may own. These rights can be taken outside of the market. In other words, the person who owns these rights can sell those rights to another firm for the entire amount of “profits.” If a firm decides not to sell these rights, then it will appear as if they are making profits, but we refer to these as rents because they cannot be competed over. To make this even more clear. Take the following (albeit cheesy) example.

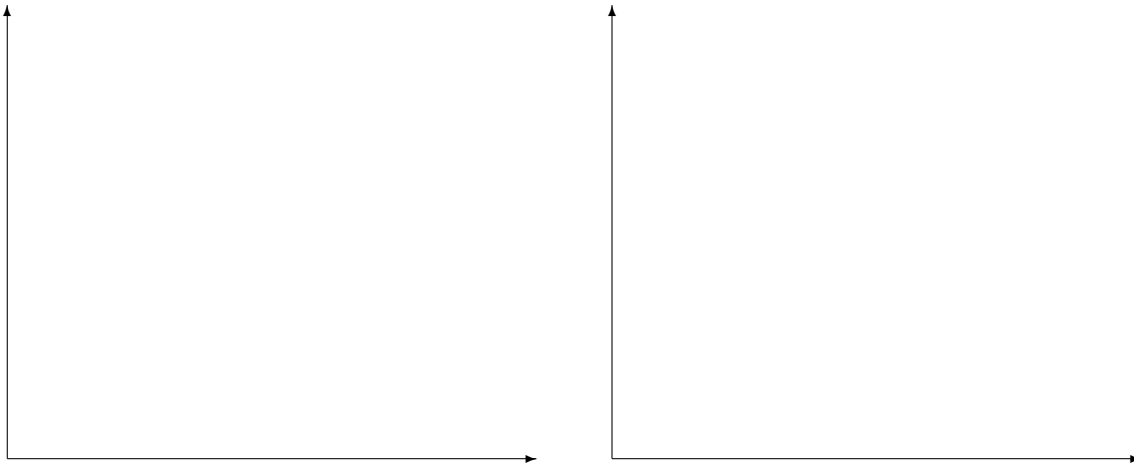
Assume a market for books is perfectly competitive. All firms are identical and use the same technology so that profits are zero. Now, you’re walking along and find a magic wand that can turn any blank piece of paper into any book, but it has diminishing returns such that it takes one piece of paper to make the first book, then two pieces of paper to make the second, and so on. You’re happy because you can now make books at a really cheap cost (although this cost is increasing). There are currently zero profits in the market, but you now enter the market and earn some positive profit because your average cost is always lower than your marginal cost (since you just found the wand), and so you can set your marginal cost equal to the going market price. Notice then, there is no change in the market price, but some firms may have to exit because now you’re producing books and market demand is constant at that price. Now, if you don’t want to make books anymore, you can sell the rights to use the wand to another book producer. How much is any book producer willing to pay for it? They’re willing to give up to all the profits (aka rents) that you were making in order to use it, since that will leave them indifferent from the zero-profit position they’re in right now. Therefore, since your “profits” from the market can be extracted from the market, we refer to them as rents, and still maintain the zero-profit condition in perfect competition.

**NB:** In a market classified by perfect competition, rents *cannot* be competed over, whereas profits *can* be competed over.

Also notice, who sets the market price?: The firms that do not have the advantage. (Hint: problem 1.2 on problem set)

## 2 Quota vs. Tariff

A quota is a fixed quantity that is imposed in order to distort a market equilibrium. Tariffs are another tool for doing the same thing. Therefore, in the context of trade, if a quota and a tariff cause the same quantity to be traded, what's the difference between the two? (Assume a small country so that the world supply is perfectly elastic at a price of  $p^w$ )



## 3 Introduction to Monopoly

When talking about monopolies, we relax two of our previous assumptions. Now we have

1. Firm faces downward sloping demand curve, which implies:
2. Perfect barriers to entry, which implies:

Their profit maximizing equation is the same as before, but the difference is now that the inverse demand curve,  $P(Q)$ , is a function of  $Q$ .

$$\max_Q \overset{\text{Monopoly}}{P(Q) \cdot Q - C(Q)} \quad \text{vs.} \quad \max_Q \overset{\text{Price-Taker}}{P \cdot Q - C(Q)}$$

**Problem:** (P&R, Chapter 10, Exercise 10)

A firm faces the following demand curve:  $P = 120 - 0.002Q$ , where  $Q$  is weekly production and  $P$  is price, measured in cents per unit. The firm's cost function is given by  $C = 60Q + 25,000$ . Assume that the firm maximizes profits.

- a. What is the level of production, price, and total profit per week?
- b. If the government decides to levy a tax of 14 cents per unit on this product, what will be the new level of production, price, and profit?

The quiz in class asked about the relationship between a monopolist's production decision and the elasticity of demand. Let's think through this relationship again. It's captured in the following relationship.

$$MR = P(Q) \left[ 1 + \frac{1}{\varepsilon_P} \right]$$