

14.01 Principles of Microeconomics, Fall 2007
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 November 14, 2007

Lecture 24

Monopoly and Monopsony

Outline

1. Chap 10: *Monopsony*
2. Chap 10: *Monopoly Power*
3. Chap 11: *Price Discrimination*

1 Monopsony

A monopsony is a market in which there is a single buyer. Typically, a monopsonist chooses to maximize the total value derived from buying the goods minus the total expenditure on the goods: $V(Q) - E(Q)$.

Marginal value is the additional benefit derived from purchasing one more unit of a good; since the demand curve shows the buyer's additional willingness to pay for an additional unit, marginal value and the demand curve coincide.

Marginal expenditure is the additional cost of buying one more unit of a good. Average expenditure is the market price paid for each unit, which is determined by the market supply (see Figure 1). Now compare the competitive and monopsony market.

- Competitive buying firms are price takers: The price P^* is fixed; therefore,

$$E = P^* \times Q.$$

And then

$$AE = ME = P^*$$

(see Figure 2).

- Monopsonist:

$$E = P_S^*(Q) \times Q.$$

By definition,

$$AE = \frac{E}{Q} = P_S(Q);$$

and

$$ME = \frac{dE}{dQ} = P_S(Q) + Q^* \times \frac{dP_S(Q)}{dQ}.$$

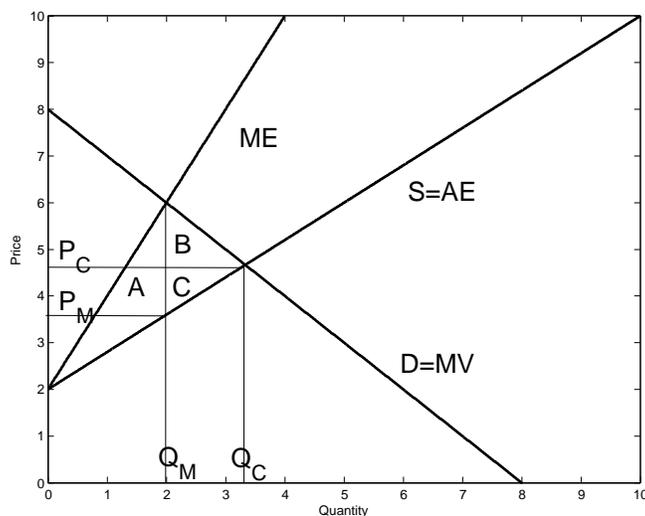


Figure 1: Monopsony Market.

Since the supply curve is upward sloping,

$$ME > P_S(Q) = AE.$$

To maximize

$$V(Q) - E(Q),$$

we have

$$MV(Q) = ME(Q).$$

Buyers gain $A - B$ from monopsony power, while sellers lose $A + C$ (see Figure 1); the deadweight loss is $B + C$.

2 Monopoly Power

There usually is more than one firm in the market, and they have similar but different goods. The Lerner's index is

$$L = \frac{P - MC}{P} = \frac{1}{|E_d|},$$

in which $|E_d|$ is the elasticity of demand for a firm, as oppose to market demand elasticity.

There are several factors that affect monopoly power.

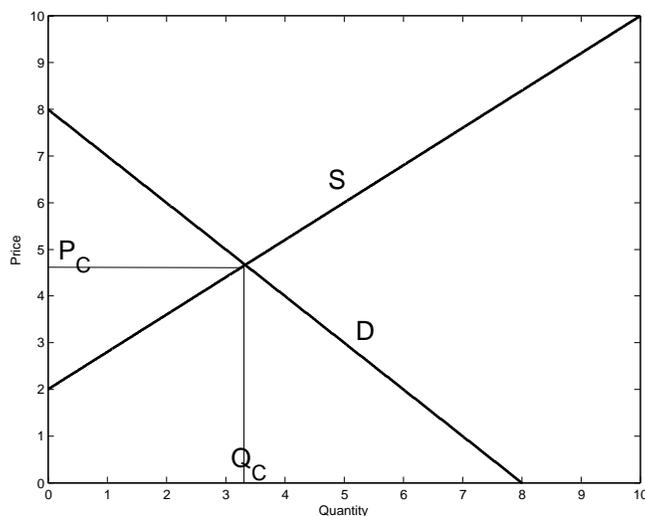


Figure 2: Competitive Buying Market.

- Elasticity of Market Demand: If the market demand is more elastic, the firm's demand is also more elastic. In a competitive market, elasticity of demand for a firm is infinite. With more than one firm, a single firm's demand is more elastic than market demand.
- Number of Firms in Market: With more firms, the firm's demand elasticity is higher, namely, the market power is less.
- Interaction among Firms: If competitors are more aggressive, firms have less market power; if firms collude, they thus have more market power.

3 Price Discrimination

Without market power, the producer would focus on managing production; with market power, the producer not only manages production, but also sets price to capture consumer surplus.

First Degree Price Discrimination

Knowing each consumer's identity and willingness to pay, the producer charges a separate price to each customer.

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$$MR(Q) = P_D(Q).$$

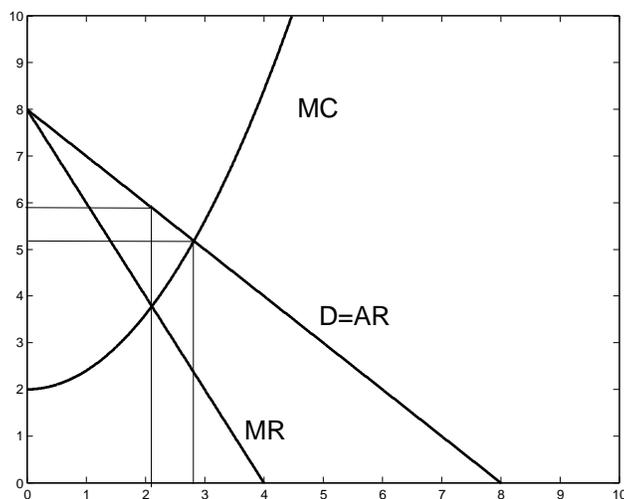


Figure 3: First Degree Price Discrimination.

- Choose Q^* such that

$$MR(Q^*) = MC(Q^*)$$

Q^* is efficient.

- When the consumer surplus is zero, the producer surplus is maximized.

This kind of price discrimination is not usually encountered in real world.

Second Degree Price Discrimination

The producer charges different unit prices for different quantity purchased. It applies to the situation when consumers are heterogeneous and the seller cannot tell their identity, and consumers have multiple unit demand.

Third Degree Price Discrimination

Refer to next lecture.