

## Monopoly 2 and Monopsony

### I. Elasticity and Monopoly Pricing

Lerner Index is the percentage of mark-up over marginal cost:

$$L = \frac{P - MC}{P}$$

We also have the monopoly pricing rule:

$$P = \frac{MC}{1 + 1/\varepsilon}$$

Where  $\varepsilon$  is the elasticity of demand. Note how this rule implies that a monopolist would never operate in the inelastic portion of the demand it is facing. Does this rule feel counterintuitive?

Combining the above two equations we have

$$L = -\frac{1}{\varepsilon}$$

which is a neat result, but bear in mind there are a lot more factors involved in real world commercial decisions.

### Elasticity and 3<sup>rd</sup> Degree Price Discrimination

By the monopoly pricing rule we have

$$P_1 = \frac{MC}{1 + 1/\varepsilon_1}$$

$$P_2 = \frac{MC}{1 + 1/\varepsilon_2}$$

Dividing the two gives us

$$\frac{P_1}{P_2} = \frac{\frac{MC}{1 + 1/\varepsilon_1}}{\frac{MC}{1 + 1/\varepsilon_2}}$$

$$\frac{P_1}{P_2} = \frac{1 + 1/\varepsilon_2}{1 + 1/\varepsilon_1}$$

This says that the relative price difference in the two markets only depends on their demand elasticities.

## **II. Monopsony**

Monopsony is the opposite of monopoly—there is one buyer and many sellers. To analysis we have to figure out what the marginal benefit and marginal expenditure to the buyer are.

Marginal Benefit (MB)—Demand Curve

Marginal Expenditure (ME)—Marginal Cost with double the slope

Equilibrium Quantity is given by  $MB = ME$

Price is given by marginal cost at the equilibrium quantity.