

SECTION NOTES 8

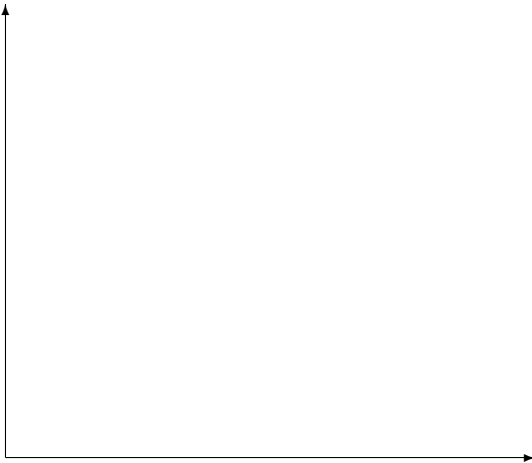
Covering material from Lecture on February 7th

CLASS OUTLINE

1. Market Demand: Consumers Coming Together
2. Consumer Surplus
3. Network Externalities

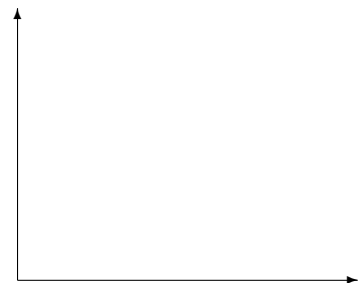
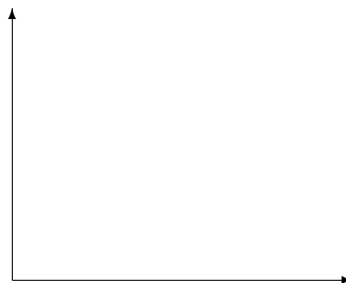
1 Market Demand: Consumers Coming Together

So far, we have looked at optimal choices for individuals. We are now interested in how this turns into a demand curve for the entire market. Graphically, we can see this by adding individual demand curves “horizontally.”



Just a refresher, the price elasticity of demand is...:

Graphically, let's quickly rethink through elastic, inelastic and isoelastic demand curves.



Problem: (P&R, Chapter 4, Exercise 7)

The director of a theater company in a small college town is considering changing the way he prices tickets. He has hired an economic consulting firm to estimate the demand for tickets. The firm has classified people who go to the theater into two groups and has come up with two demand functions. The demand curves for the general public (Q_{gp}) and students (Q_s) are given below:

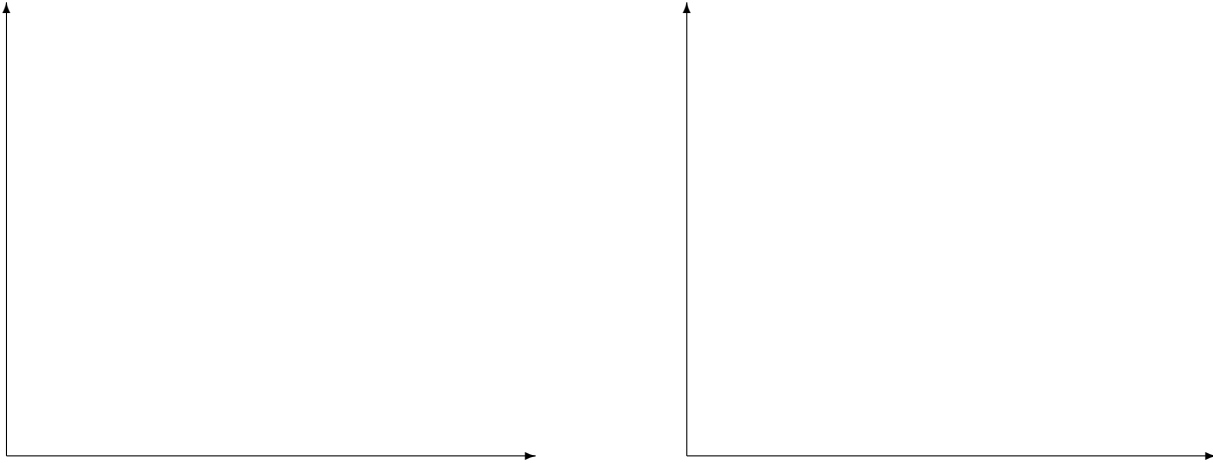
$$Q_{gp} = 500 - 5P$$

$$Q_s = 200 - 4P$$

- a. Graph the two demand curves on one graph, with P on the vertical axis and Q on the horizontal axis. If the current price of tickets is \$35, identify the quantity demanded by each group.
- b. Find the price elasticity of demand for each group at the current price and quantity.
- c. Is the director maximizing the revenue he collects from ticket sales by charging \$35 for each ticket? Explain.
- d. What price should he charge each group if he wants to maximize revenue collected from ticket sales?

2 Consumer Surplus

Whenever we are looking at market demand, we are including many consumers, all of whom have different reservation prices for the good. The eventual market price is many times different from what they were individually willing to pay, which leaves these consumers with a “surplus.” As we think about this surplus, we will also consider how this surplus changes with elastic versus inelastic demands.



3 Network Externalities

Just a so that you are aware.

Bandwagon Effect: positive network externality

Snob Effect: negative network externality

Problem: (P&R, Chapter 4, Exercise 13)

Suppose you are in charge of a toll bridge that costs essentially nothing to operate. The demand for bridge crossings Q is given by $P = 15 - (1/2)Q$.

- a. Draw the demand curve for bridge crossings.
- b. How many people would cross the bridge if there were no toll?
- c. What is the loss of consumer surplus associated with a bridge toll of \$5?
- d. The toll-bridge operator is considering an increase in the toll to \$7. At this higher price, how many people would cross the bridge? Would the toll-bridge revenue increase or decrease? What does your answer tell you about the elasticity of demand?
- e. Find the lost consumer surplus associated with the increase in the price of the toll from \$5 to \$7.