Class 1
Additional Excercies

Andras Niedermayer

Cergy Paris Université

Fall 2020

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 (*Qgp*) and students (*Qs*) 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?

Chapter 4 Exercise 11

- Suppose the income elasticity of demand for food is 0.5 and the price elasticity of demand is -1.0. Suppose also that Felicia spends $10,000 a year on food, the price of food is $2, and that her income is $25,000.
- **a.** If a sales tax on food caused the price of food to increase to $2.50, what would happen to her consumption of food? (*Hint*: Because a large price change is involved, you should assume that the price elasticity measures an arc elasticity, rather than a point elasticity.)
- **b.** Suppose that Felicia gets a tax rebate of $2500 to ease the effect of the sales tax. What would her consumption of food be now?
- **c.** Is she better or worse off when given a rebate equal to the sales tax payments? Draw a graph and explain.

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.