Economics 100

Fall 2013

Homework #2

Due Tuesday, October 1, 2013

**Directions:** The homework will be collected in a box **before** the lecture. Please place your name, TA name and section number on top of the homework (legibly). Make sure you write your name as it appears on your ID so that you can receive the correct grade. Late homework will not be accepted so make plans ahead of time. **Please show your work.** Good luck!

**Please realize that you are essentially creating “your brand” when you submit this homework. Do you want your homework to convey that you are competent, careful, professional? Or, do you want to convey the image that you are careless, sloppy, and less than professional. For the rest of your life you will be creating your brand: please think about what you are saying about yourself when you do any work for someone else!**

1. Josie and Mark produce two goods: cakes (C) and gadgets (G). Both Josie and Mark’s production possibility frontiers are linear and they both have the same amount of resources available to them to produce these two goods. If Josie produces only cakes she can produce 100 cakes; if she produces only gadgets she can produce 500 gadgets. If Mark produces only cakes he can produce 200 cakes; if he produces only gadgets he can produce 800 gadgets.

a. Given this information draw two graphs: a graph of Josie’s production possibility frontier and a graph of Mark’s production possibility frontier. In your graphs measure cakes on the horizontal axis and gadgets on the vertical axis.

b. Given the above information, who has the absolute advantage in producing cakes?

c. Given the above information, who has the absolute advantage in producing gadgets?

d. Given the above information, who has the comparative advantage in producing cakes? Explain your answer.

e. Given the above information, who has the comparative advantage in producing gadgets? Explain your answer.

f. Suppose that current production of cakes and gadgets are given in the table below. What happens to total production of cakes and gadgets if Josie and Mark specialize according to comparative advantage and change their production of cake from its initial level to the level given in the second table? (Note: in this example, we are just “pushing” Josie and Mark a bit towards their comparative advantage and not moving them to complete specialization.) Fill in the missing values from the second table. Assume that both Josie and Mark continue to produce on their respective PPFs when answering this question.

|  |  |  |
| --- | --- | --- |
|  | Cakes | Gadgets |
| Josie | 50 | 250 |
| Mark | 50 | 600 |
| Total Production | 100 | 850 |

|  |  |  |
| --- | --- | --- |
|  | Cakes | Gadgets |
| Josie | 20 |  |
| Mark | 80 |  |
| Total Production | 100 |  |

g. Draw the joint production possibility frontier for Josie and Mark. In your graph identify the coordinates for any “kink” point as well as the x-axis and y-axis intercepts. (Note: the “kink” point is that point where both Mark and Josie fully specialize according to their comparative advantages.)

h. What will be the acceptable range of trading prices in terms of cakes for 100 gadgets?

2. For each of the following situations assume the described market is initially in equilibrium with the equilibrium quantity, Q1, and the equilibrium price, P1. Analyze the impact on the equilibrium quantity and price, holding everything else constant, for each of the described scenarios. You might find it helpful to sketch a graph illustrating each situation. In your answer identify any supply and demand curves that shift and the direction of that shift.

a. In the market for cigarettes the government increases the excise tax on cigarette producers by $2.00 per package.

b. In the market for “Zipcar”, a community based company that allows members of the Zipcar community to rent cars for short periods of time and utilizes app technology to facilitate this, the price of car insurance for car owners increases dramatically. Assume this is the insurance you would need to buy if you personally owned a car; assume that Zipcar carries their own car insurance for their fleet of cars and this insurance is not impacted by this change.

c. Consider the market for soft drinks. Corn syrup, a major ingredient in soft drinks, becomes cheaper at the same time that the Surgeon General announces that drinking soft drinks is a major contributor to obesity.

3. Suppose that there are two individuals in the market for chocolate bars, Mike and Annie. The following table provides data on the quantity of chocolate bars that they demand at different prices. However, some of the data from the table is missing and you have been asked to complete the missing values in the table.

|  |  |  |  |
| --- | --- | --- | --- |
| Price per Chocolate Bar | Quantity Demanded of Chocolate Bars by Mike | Quantity Demanded of Chocolate Bars by Annie | Total Quantity Demanded of Chocolate Bars |
| $1 | 10 | 4 |  |
| $2 | 8 | 2 |  |
| $3 |  | 0 | 6 |
| $4 | 4 |  | 4 |
| $5 |  | 0 | 2 |

a. Complete the missing values in the table.

b. Given just the information in the table, who has the stronger tastes and preferences for chocolate bars? (Note: we are holding constant Mike and Annie’s incomes and just asking from the above information who likes chocolate more.) Explain your answer.

c. Draw three graphs horizontally aligned with one another. In the first graph represent Mike’s demand curve for chocolate; in the second graph represent Annie’s demand curve for chocolate; and in the third graph represent the market demand curve for chocolate.

d. When chocolate bars cost $5 the quantity of chocolate bars that Annie demands is equal to zero. In your own words explain what it means for the quantity she demands to be equal to zero at this price. Provide an example of a good that you do not choose to purchase once its price hits a particular level: be specific in your example.

e. In part (c) when you drew the market demand curve it should have had a “kink” point. Why is there a “kink” point in this market demand curve?

4. Suppose you are given the following table of information about the relationship between the price of pizza and the quantity demanded and the quantity supplied at these various prices.

|  |  |  |
| --- | --- | --- |
| Price per Pizza | Quantity of Pizza Demanded | Quantity of Pizza Supplied |
| $2 | 100 | 5 |
| $4 | 85 | 8 |
| $6 | 80 | 20 |
| $8 | 60 | 35 |
| $10 | 35 | 55 |
| $12 | 18 | 75 |
| $14 | 5 | 100 |

a. Given the above table, what can you predict about the equilibrium price in the market for pizzas?

b. Given the above table, what can you predict about the equilibrium quantity in the market for pizzas?

c. Suppose that the government in a desire to promote healthy eating habits decides to institute a price floor of $10 per pizza. Describe the effect of this price floor on the market for pizza given the above information about the pizza market.

d. Instead of a price floor in the market for pizza, the government decides to implement a price ceiling in this market. What might be a possible reason for the government deciding to implement an effective price ceiling in this market?

e. If the price ceiling in (d) is effective, describe its effect on the market for pizza.

f. Economists are sometimes heard to say “the short side of the market determines how much of the good is sold”. What is the short side of the market when the government institutes an effective price ceiling? Explain your answer fully.

6. In class we discussed the concepts of consumer surplus (CS) and producer surplus (PS). In the graph below we can see that the equilibrium price and quantity are given as P1 and Q1.

a. But, I am interested in trying to better understand this idea of surplus. So, I would like you to redraw the graph below in your homework answer and mark with a colored pencil the CS that occurs with the first unit (X1). With a different colored pencil I would like you to mark the PS that occurs with the first unit (X1). Then, carefully label with a key to your diagram these areas. Repeat this for X2, X3, and X4.



b. In your own words describe the meaning of CS for the consumer who consumes X1 units of the good.

c. In your own words describe the meaning of PS for the producer who is willing to supply the X1st unit of the good.

d. Redraw the graph and color in the entire area of CS assuming that consumers can consume any quantity that they are willing to buy (so, for instance a consumer could buy 1/1000th of X1 units). In the same graph color in the entire area of PS assuming that producers can sell any quantity. Label these two areas clearly.

7. Suppose you have been given the task of deciding whether Madison Metro should raise the price of bus fares or lower the price of bus fares. Assume that the primary concern with fares has to do with generating sufficient revenue to cover the operating costs of the system; furthermore, assume that currently there is enough excess capacity (i.e., empty seats on each bus) that Madison Metro can transport additional riders without any additional cost.

a. What would be the primary argument for raising the price of bus fares?

b. What would be the primary problem with raising the price of bus fares?

c. What would be the primary argument for lowering the price of bus fares?

d. What would be the primary problem with lowering the price of bus fares?

e. Suppose that Madison Metro currently is selling 100,000 bus fares a year at $1.00 per fare. Research suggests that if the fare were raised to $1.25 Madison Metro would experience a 10% decrease in ridership per year. Research also suggests that if Madison Metro decreases bus fares by 20%, then ridership would increase by 5% per year. Given this information, should Madison Metro raise fares, lower fares, or keep fares at their current level for next year? Explain your analysis fully.

f. Given your work in (e), and the information you were given about the demand for bus fares, what would you conclude about the price elasticity of demand for bus rides in Madison when the price of a bus ride is $1.00?

8. Wheelan writes on page 36 of Chapter 2: “Any system that pays all teachers the same provides a strong incentive for the most talented among them to look for work elsewhere.” Write a brief paragraph explaining what Wheelan is saying in this paragraph and then think about a way to respond to this issue through public policy (a second paragraph).

9. Wheelan in Chapter 2 writes about “creative destruction”. What does this term mean? Provide an example of creative destruction in your answer.

10. in Chapter 3 of Naked Economics Wheelan discusses the role of government in dealing with externalities. Provide and discuss two different ways to government can help when there is an externality.