# Homework 2

Econ 201H

Homework 2 reviews the basic models of input markets and public policies and their implications for market equilibria. The results that you "turn in" will simply be a *list of your multiple-choice answers* ((1) d, (2) c, etc.) *in ink or typed,* but you should think carefully about each question using the information and models covered in class and the class notes to determine which of the graphs that are relevant for determining the correct answers. In some cases, you'll want to draw a diagram or two to reach the right conclusion. (Doing so will be good practice because the midterm exam will not be multiple choice and you will often have to draw your own diagrams.)
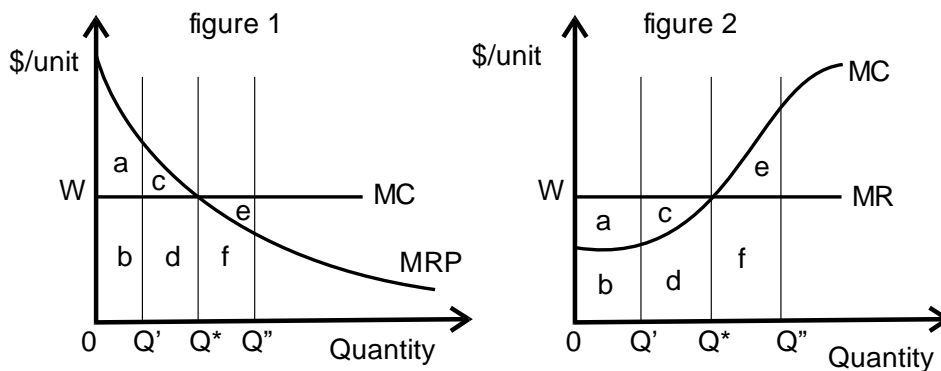
(1)   Which of the above figures characterizes a typical "price taking" firm's optimal purchase of an input?

a. Figure 1

b. Figure 2

(2)   If the market price of labor is W, how much net benefit does the individual worker depicted (Al) realize?

a. "a"

b. "b"

c. "a" + "c"

d. "b" + "d"

(3) If the market price of labor is W, what is the profit realized by a typical firm that employs the optimal quantity of the type of labor in the market depicted?

 a. "a"

 b. "b"

 c. "a" + "c"

 d. "a" - "b"

(4) Suppose that the laborer (Al) cannot contract for Q* hours of work, but has to choose between Q' and Q". Which relationship among areas implies that Al should choose Q" over Q'?

 a. "c" > "e"

 b. "a" + "b" > "e"

 c. "b" < "e" + "f"

 d. "e" > "c"
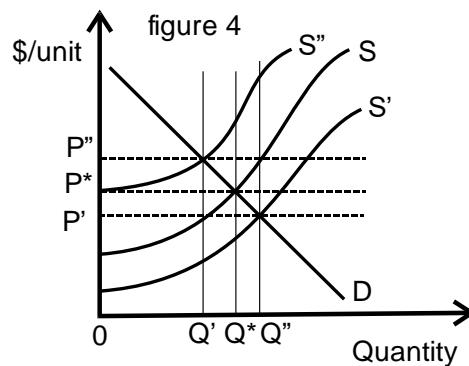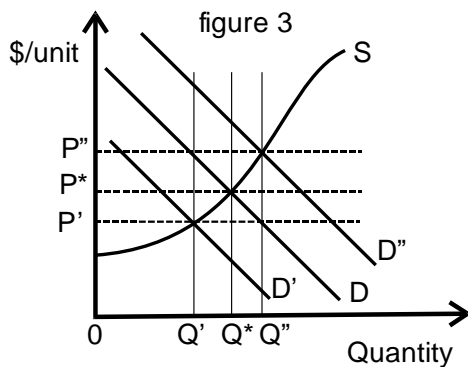
Comparative Statics of Input Markets. Suppose that the input markets depicted in figures 3 and 4 initially have demand curve D and supply curve S, and that the market for the input of interest has cleared—e.g. that equilibrium prices have emerged.

(5) Suppose that the market depicted is the market for oranges for use in orange juice. What happens to the market for orange juice if an unexpected hard frost devastates the output of oranges in a region of the world that is normally a major producer of oranges?

a. See figure 3, the equilibrium that emerges will be where D" crosses S.
b. See figure 3, the equilibrium that emerges will be where D' crosses S.
c. See figure 4, the equilibrium that emerges will be where S" crosses D.
d. See figure 4, the equilibrium that emerges will be where S' crosses D.

(6)   Suppose that the market depicted is the market for oranges. What happens to the market for oranges if an unexpected medical finding implies that drinking two glasses of orange juice a day reduces the probability of a cold by 50%?
a. See figure 3, the equilibrium that emerges will be where D" crosses S.
b. See figure 3, the equilibrium that emerges will be where D' crosses S.
c. See figure 4, the equilibrium that emerges will be where S" crosses D.
d. See figure 4, the equilibrium that emerges will be where S' crosses D.

(7)   Suppose that the market depicted is the market for batteries that are used in battery-powered automobiles. What happens to the market for such batteries if an unexpected technological breakthrough increases their range (MP) by a 50%?

a. See figure 3, the equilibrium that emerges will be where D" crosses S.
b. See figure 3, the equilibrium that emerges will be where D' crosses S.
c. See figure 4, the equilibrium that emerges will be where S" crosses D.
d. See figure 4, the equilibrium that emerges will be where S' crosses D.

(8)   Suppose that the market depicted is the market for batteries that are used in battery-powered automobiles. What happens to the market for such batteries if an the price of battery powered vehicles (EVs) falls by 25%?

a. See figure 3, the equilibrium that emerges will be where D" crosses S.
b. See figure 3, the equilibrium that emerges will be where D' crosses S.
c. See figure 4, the equilibrium that emerges will be where S" crosses D.
d. See figure 4, the equilibrium that emerges will be where S' crosses D.
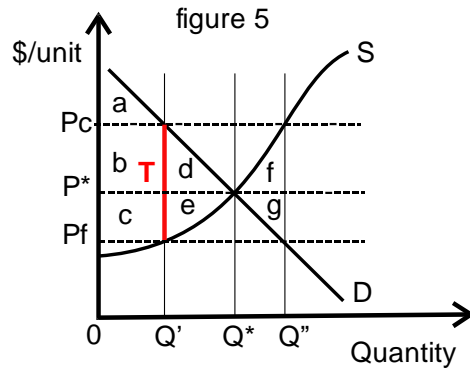
figure 5

(9) Suppose that the market depicted in figure 5 has cleared in a setting without excise taxes. Which areas show the consumer surplus lost after an excise tax of amount T dollars per unit is imposed on this service?

a. Areas "b" and "c"

b. Areas "b" and "d"

c. Areas "c" and "e"

d. Areas "d" and "e"

(10) Suppose that the market depicted in figure 5 has fully adjusted to the effect of the excise tax. What is the total tax revenue generated by the tax?

a. Areas "b" and "c"

b. Areas "b" and "d"

c. Areas "d" and "e"

d. Areas "f" and "g"