

Economics 103 Midterm #2 Answer Key

Part 1: True, False, and Explain

(10 points each - 3 for the right answer, and 7 for the explanation)

State whether each of the following six propositions is true or false. In 2-3 sentences, explain why. *Use S&D diagrams when helpful.*

Questions 1 and 2 refer to the market for snack foods:

$$S: Q = -10 + 30P^S$$

$$D: Q = 200 - 10P^D$$

1. T, F, and Explain: **Buyers will pay a higher percentage of any tax in this market than sellers will.**

TRUE. Using notation from the notes, $b=30$ and $d=10$. In the homework we proved that the fraction buyers pay is equal to $b/(b+d)$, while the fraction sellers pay is $d/(b+d)$. Plugging in, buyers pay $30/(30+10)=75\%$, while sellers pay $10/(30+10)=25\%$.

2. Suppose the government imposes a \$1 tax.

T, F, and Explain: **If sellers legally pay the tax, the sticker price on snacks will rise by \$.25. If buyers legally pay the tax, the sticker price on snacks will fall by \$.25.**

FALSE. Using the answer from (1), it follows that if the sellers pay the tax, the price must rise by \$.75 (that way sellers only pay 25%), but if buyers pay the tax the price must fall by \$.25 (that way buyers pay 75%).

3. Suppose the demand for gasoline is highly elastic but the supply is highly inelastic.

T, F, and Explain: **If the price of crude oil increases, consumers will wind up paying for most of the increase.**

FALSE. Just like taxes, who suffers from the oil shock depends on elasticities. Just like with taxes, the more *elastic* demand gets, and the more *inelastic* supply gets, the more the burden falls on sellers. Price paid by demanders will only rise slightly since they will cut back their consumption a lot, while suppliers will only slightly reduce their production in response to higher costs.

(Many people answered this question using their own personal guesses of the elasticities. You can't do that when the problem's assumptions tell you what the elasticities are!)

4. T, F, and Explain: **People who rent ultimately benefit little from the large reduction in New York City's murder rate, unless they happen to live in rent-controlled apartments.**

TRUE. Falling murder rates make NYC a nicer place to live, which increases the demand for NYC housing. Thus, people who rent in NYC find that the benefit of the lower murder rate is balanced out by the cost of extra rent. People in rent-controlled apartments, however, get to keep paying the same rent, even though their neighborhood is now nicer.

(A few people answered false, arguing that shortages of rent-controlled apartments would intensify. That's true, but it's irrelevant for people who *already* live in rent-controlled apartments. One or two other students said false because the quality of rent-controlled apartments would decline due to the intensification of the shortage. If the answer was very clear, I gave full credit).

5. A "crime family" employs workers to sell cocaine.

T, F, and Explain: If the punishment for convicted drug-dealers increases, the wages of the crime family's workers will fall.

FALSE. Increased punishments make drug-dealing a less pleasant job. This reduces supply, raising the wages for drug-dealing. (A few students also emphasized the reduction in labor supply due to incarceration. That's also true - and I gave a lot of partial credit for this answer - but wages would rise *before* any new convictions actually happened).

6. Suppose the government bans deductibles on health insurance.

T, F, and Explain: Landsburg ("Why Taxes Are Bad") would argue that this ban has deadweight costs because it transfers wealth from insurance companies to consumers.

FALSE. There is a basic difference between transfers and deadweight costs. Transfers take wealth from some and give to others. Deadweight costs, in contrast, take from some and give to no one! The deadweight costs of banning deductibles arise because some people who would have been willing to buy a cheap policy with a deductible won't buy an expensive policy without a deductible. Also, banning deductibles increases the number of accidents without making anyone better off.

Part 2: Short Answer
(20 points each)

In 4-6 sentences, answer both of the following questions. *Use a S&D diagram to illustrate each of your answers.*

1. What would happen to the market for low-wage labor if **both** the minimum wage and welfare payments were **increased**? Neatly show both effects on one diagram. Then carefully explain the combined consequences of these policies on wages and employment.

(Note: This is almost identical to question 1 on the first midterm!)

Increasing welfare reducing the supply of labor. Wages rise and quantity of labor falls, but note that this unemployment is voluntary. Raising the minimum wage has the usual effect of creating surplus labor by keeping demand and supply unequal. Note that this unemployment is involuntary. (Many people still don't know what a minimum wage does. Minimum wages and other price controls do NOT move demand. They don't move supply. They just fix a price where demand and supply are unequal!)

2. The Family Leave Act, passed in Clinton's first term in office, requires employers to give workers three months unpaid leave to care for a new-born infant. What happens in the labor market if wages are permitted to change? What happens if the government makes it illegal to change wages in response to the legislation?

Mandating benefits increasing the supply of labor (more people will work at a given wage once you add benefits to the package), while reducing the demand for labor (employers want to hire fewer people at a given wage if they have to give them benefits too). If wages can adjust, then, wages fall. If wages aren't allowed to change, then the same demand and supply shifts happen, but a wage floor keeps wages up. The result is a surplus of labor - involuntary unemployment.