

Problem Set #2
Principles of Microeconomics
Professor Hungerman

A general suggestion: When a problem describes a market and asks you to (for example) explain how equilibrium changes in the market, start by graphing the market on a piece of paper. Then graph the changes in the market that the problem describes.

Supply, Demand, and Equilibrium (these 6 questions are due!)

1. Your study friend Mr. Silly keeps saying that an increase in supply means you move the supply curve “upwards” on the standard graph of supply. Since Mr. Silly has a midterm coming, please explain to him what an increase in supply means, how this differs from an increase in quantity supplied, and why an increase in supply means the supply curve moves down and to the right.
2. Suppose that Ramen soup is an inferior good. If your income rises, holding all else equal, what will happen to the equilibrium quantity and price of Ramen soup?
3. Suppose there is a shock in a market, so that either demand or supply shifts. You don’t know which shifted, or how, all you know is that at the old equilibrium price there is now a surplus. What sort of shift in supply or demand would create a surplus? How will the equilibrium quantity change? How will equilibrium prices change?
4. Consider two goods, ham and bacon, which are complements in production. Consumers consider ham and beef substitutes. Suppose that the price of beef rises. How will this affect demand for ham? How will the effect on the equilibrium for ham affect supply of bacon? What about the equilibrium in the bacon market—what will it look like now? (Assume demand for bacon does not change.)
5. Suppose that iPods and iTunes are complements. Right now, iTunes can be bought for \$0.99. Suppose the price for iTunes increased to \$2. All else equal, what do you expect will happen to the equilibrium quantity of iPods sold? Will supply of iPods change? Will supply of iTunes change?
6. Suppose that after football season ends, both the supply and demand for Notre Dame t-shirts falls. At the new equilibrium, how will price have changed? How will the equilibrium quantity change? What has happened to the minimum price that producers need to face in order to produce a quantity of t-shirts equal to the original equilibrium quantity? What has happened to the maximum price that consumers can face while still being willing and able to buy a quantity of t-shirts equal to the old equilibrium amount?

Elasticity

1. Consider the following table. Calculate the total revenue for each price/quantity combination, and calculate the elasticity between each price/quantity combination. Verify whether or not we see the expected relationship between elasticity and the effect of a change in price on total revenue.

Price	Qd	Price Elasticity of Demand	Total Revenue
1	10		
2	9		
3	8		
4	7		
5	6		
6	5		
7	4		
8	3		
9	2		
10	1		

2. Suppose someone tells you that the demand for drugs is inelastic. If a new anti-drug policy causes a decrease in the supply of drugs, what will be the effect on total revenue in the drug market?

3. Suppose someone tells you that a good is a superior, or normal, good. True or false: this means that the income elasticity of demand for that good is greater than unity.

4. Your study companion, Mr. Silly, has drawn a demand curve with a slope equal to negative one. Mr. Silly tells you this means that the elasticity of demand is constant along this demand curve. Is Mr. Silly correct?

5. Suppose you learned that the proportion of income devoted to food in the United States is much smaller than the proportion of income devoted to food in India. Based on this fact, would you expect consumers in India to have higher or lower price elasticities of demand for food?

6. Name a problem with using slope to measure how sensitive a demand curve is to changes in price.

7. Consider the market for whale boots. Suppose that demand in this market is perfectly elastic. Suppose that the costs of the factors of production of whale boots increase (e.g., suppliers have to pay whale-hunters more). What effect does this have on equilibrium prices and quantities?