

Econ 211 > **Problem Set 2** > Spring 2010

1. Distinguish between a change in demand and a movement along a given demand curve. Explain the chief causes of each. Now distinguish between a change in supply and a movement along a given supply curve. Explain the chief causes of each.
2. Which of the following statements uses incorrect terminology? Explain.
 - a) "The recent fare war among the major airlines has increased the demand for air travel."
 - b) "The terrorist attack on America has caused the demand for air travel to fall."
3. What is the effect of each of the following events on the equilibrium price and quantity of computers in the US market?
 - a) The price of plastic increases.
 - b) The price of printers (a complement in consumption) decreases.
 - c) The government expands the entry of foreign-made computers into the U.S.
 - d) The government increases the income tax rate on all consumers.
 - e) The price of silicon chips decreases and internet service providers lower their prices.
 - f) Consumers expect that the price of computers will decrease in the future and the government imposes a tax on all computer manufacturers.
4. Consider the market for hamburgers in the US. Determine what happens to the equilibrium price and quantity of hamburgers under each of the following situations:
 - a) the price of hot dogs rises.
 - b) the price of hamburger buns increases.
 - c) the cost of cow feed increases.
 - d) several thousand cattle ranchers exit the industry.
 - e) consumer income rises due to an economy-wide expansion and cattle ranches are infested with a herd-killing disease.
 - f) environmentalists successfully put pressure on cattle ranchers to adopt costly "green" ranching methods and consumers learn that hamburger contains a nutrient that causes sterility in males.
5. Consider the market for automobiles in the US. Determine what happens to the equilibrium price and quantity of automobiles under each of the following situations:
 - a) the price of fiber glass decreases.
 - b) the price of gasoline increases.
 - c) the United Automobile Workers of America successfully strike for higher wages.
 - d) the government announces a large income tax cut for all Americans.
 - e) several automobile manufacturers exit the industry due to negative profits and news reports indicate that Americans are moving to live within walking distance of their work.
 - f) automobile manufacturers implement a more efficient production method and manufacturers add new internet based applications to the typical automobile.
6. The number of compact discs sold in markets has more than quadrupled over the past three years. The average price of a compact disc, however, has fallen. Use supply and demand analysis to explain this phenomenon.
7. The number of doctors employed in the US has decreased over the last decade. The wage rate of doctors has increased over the same time period. Use supply and demand analysis to explain this phenomenon.

8. Suppose that the market price for personal computers has fallen over the course of a year from \$1500 to \$1300. At the same time, the number of computers bought has risen from 5 million to 6.5 million. Suggest an explanation for this data using supply and demand.
9. Here are some more S&D questions. It would be a good idea to take a piece of paper and sketch the demand or supply curves described or inferred in each case below.
- If a huge increase in demand for soybeans results in almost no increase in the price of soybeans, what can you conclude about the supply of soybeans?
 - If a large fall in the cost of growing corn results in almost no decrease in the price of corn, what can you conclude about the demand for corn?
 - What effect would you predict on the price of rental housing in an area where several major employers have recently closed down or moved away?
 - What effect do you think the development of synthetic fabrics had on the price of cotton?
10. "If the DEA intercepts 100 tons of cocaine, the supply of cocaine will fall. This will cause the price to rise, which will increase the supply back to its original position." True, false, or uncertain? Explain.
11. The data in the table below refers to the compact disc market.

Agent Type	Buyer Values	Number in the Market
Type A Buyers	\$60	4
Type B Buyers	\$45	4
Type C Buyers	\$20	6

Agent Type	Seller Costs	Number in the Market
Type D Sellers	\$5	5
Type E Sellers	\$20	4
Type F Sellers	\$35	6

- Plot the supply and demand curves based on this data. [Remember, these are going to be step functions.]
 - What is the competitive equilibrium price and quantity?
 - Calculate the value of each of the following at the competitive equilibrium: Consumer surplus, Producer surplus, and Social welfare
 - Suppose the government imposed a price ceiling at \$15. What quantity would buyers demand? What quantity would sellers supply? Is there a shortage or surplus? How big is it? What happens to CS, PS, and Social Welfare?
 - Suppose the government imposed a price floor at \$50. What quantity would buyers demand? What quantity would sellers supply? Is there a shortage or surplus? How big is it? What happens to CS, PS, and Social Welfare?
12. When the price of water in southern California rose, some analysts attributed the change to the drought, others attributed it to more people living in southern California, and those people who live there buying bigger swimming pools. Since both the drought and the influx of people who are getting richer occurred simultaneously, how would you determine which set of analysts had described the dominant cause of the price increase?

13. If I buy a soda at the movies, I have to pay \$2.75. If I buy a soda at a gas station, I only have to pay about \$1. Use the idea of elasticity and the factors that determine elasticity of demand to explain why the movie theater can charge so much higher of a price. Use the idea of elasticity and total revenue to explain why the movie theater doesn't raise the price even higher, like to \$4.
14. Consider the hypothetical data below about the film market. The data in the bottom two rows of the table reflect events affecting the film market equilibrium data in the top two rows of the table. Depict the sequence of events in a single supply and demand diagram for the film market, and carefully explain any shifts you show for your supply and demand curves.

	July	August	September
Equilibrium price of film	\$2	\$3	\$4
Equilibrium quantity of film	100	150	75
Price of photo developing	\$3	\$2	\$3
Wages of labor used to make film	\$5	\$5	\$8

15. If the supply of turkeys in a particular November turned out to be unusually small, do you think a turkey shortage would result? Why or why not?
16. The table below shows the demand and supply schedules for sandwiches. Use the table to answer the following questions:
- What is the efficient quantity of sandwiches?
 - What is CS if the efficient quantity of sandwiches is produced?
 - What is PS if the efficient quantity of sandwiches is produced?
 - If Sandwiches To Go, Inc. buys all the sandwich producers and cuts production to 100 sandwiches an hour, what is the deadweight loss that is created?
 - If in question (d), Sandwiches To Go, Inc. rations sandwiches to two per person, is this distribution of sandwiches fair? By what principle of fairness would the distribution be unfair?

Price (dollars per sandwich)	Quantity Demanded (per hour)	Quantity Supplied (per hour)
0	400	0
1	350	50
2	300	100
3	250	150
4	200	200
5	150	250
6	100	300
7	50	350
8	0	400

18. Far fewer babies are currently offered for adoption in the United States than couples want to adopt. Would you call this a shortage? Why doesn't the price of an adopted baby rise? By what criteria are the scarce babies rationed to demanders?

19. What are the major economic effects of rent ceilings?
20. What are the economic arguments for and against drug prohibition?
21. Suppose the government wishes to support corn farmers by maintaining a price floor of \$5 per bushel. The market equilibrium price is \$4 per bushel. Using a supply and demand graph, show what happens to quantity demanded and quantity supply before and after the price floor is imposed. How exactly can the government maintain the price of corn at \$5? What are the social welfare implications of the price floor?
22. The city of Berkeley, California, imposes strict rent controls; there are no rent controls in Gainesville, Florida. Both cities are the home of large universities. In which city do you expect incoming first-year students to have the least trouble renting an apartment? Why?
23. The table below summarizes the labor market for unskilled workers in Ohio.

Hourly Wage	Quantity Demanded (millions of hours per week)	Quantity Supplied (millions of hours per week)
\$6.00	28	22
\$6.50	26	23
\$7.00	24	24
\$7.50	22	25
\$8.00	20	26
\$8.50	18	27

- a) What is the equilibrium wage and employment level in this market? How much unemployment occurs at the equilibrium wage?
- b) Suppose the Ohio state legislature imposes a minimum wage of \$8.00 per hour on this market. What is the new quantity demanded of labor? What is the new quantity supplied of labor? How much unemployment is created by the minimum wage?

24. Consider the market for beer as described by the following equations:

$$Q^d = 30 - 0.5P \quad (\text{demand})$$

$$Q^s = -1.5 + 0.25P \quad (\text{supply})$$

where Q is measured in millions of barrels per year and P is the price in dollars per barrel.

- a) What is the equilibrium price and quantity of beer?
- b) Calculate consumer and producer surplus at the equilibrium price. Illustrate graphically.