

Taxes and Trade

Multiple Choice (MC) questions usually have only one correct answer, although you may be able to defend different answers. Other kinds of questions often have more than one correct answer. Having good reasons for your answers is more important than what your answer is. If you don't understand the meaning of a question, you may write to *your own TF*, but do not expect him/her to give you answers. The problem set will not be graded, but the way you discuss the problems in your discussion section will affect your discussion-section participation score. You are allowed to work on the problem sets with other students.

1. In a labor market the employers pay an hourly wage for labor. The number of hours that workers are willing to work depends on the wage. Suppose the government taxes employers \$3 per hour of hired labor.
 - i. Who are the sellers in this market? Who are buyers?
 - ii. Draw supply and demand curves in this market. Label your axes.
 - iii. Draw the effect of the tax. Identify the wage received by the workers, the wage paid by the employer, and the deadweight loss.
 - iv. Is the equilibrium wage received by workers higher or lower with the tax compared to the equilibrium without the tax? By more or less than \$3.00?
 - v. Is the equilibrium quantity of hours worked higher or lower with the tax compared to the equilibrium without the tax?
 - vi. Suppose employers can move production to other countries. Who do you think would pay most of the tax? Explain.
2. [MC] Suppose in equilibrium the price elasticity of demand for yachts is -4 , while the price elasticity of supply for yachts is $+0.2$. If Congress places a luxury tax on yachts, who will pay most of the tax?
 - a. It's impossible to tell without additional information.
 - b. Yacht builders and buyers will pay equally.
 - c. Yacht builders will pay more.
 - d. Yacht buyers will pay more.
3. True or False? Explain each answer.
 - i. In general, a tax raises the price the buyers pay, lowers the price the sellers receive, and reduces the quantity sold.
 - ii. The deadweight loss from a tax is the decrease in consumer surplus from such tax.
 - iii. When a tax is placed on a good, the revenue the government collects is equal to the loss of consumer and producer surplus from the tax.
 - iv. A larger tax always generates more tax revenue.
4. Suppose beer and milk have the same supply curve. They also have the same equilibrium price and quantity. However, the demand for beer is more elastic than the demand for milk. Suppose the government is considering taxing each good by \$2.
 - i. Which tax would have a larger deadweight loss? Explain.
 - ii. Which one would collect more tax revenue? Explain.
 - iii. Which one would impact the equilibrium quantity the most?

Table QXR The schedule below represents the market for sandwiches.

Price(unit)	Quantity Demanded (units)	Quantity Supplied (units)
\$1.10	9,000	3,000
\$1.20	8,000	5,000
\$1.30	7,000	7,000
\$1.40	6,000	9,000
\$1.50	5,000	11,000

5. [MC] [See **QXR**] The government decides to tax sandwiches at a rate of \$0.30 per sandwich and collect that tax from the sandwich shops. Once the tax is introduced, consumers will pay ___ per sandwich and ___ sandwiches will be sold.
- \$1.30; 7,000
 - \$1.40; 6,000
 - \$1.50; 5,000
 - \$1.20; 8,000
6. [MC] [See **QXR**] How much of the tax is paid by consumers? How much by the sandwich shops?
- \$0.20; \$0.10
 - \$0.00; \$0.30
 - \$0.15; \$0.15
 - \$0.30; \$0.00
7. Suppose the supply curve of floor lamps is very inelastic. The equilibrium price of floor lamps is \$50. The government plans to introduce a \$30 subsidy on floor lamps (because every home needs one).
- Will the quantity sold increase or decrease? How would a small increase in elasticity affect the result?
 - Will the revenue of the producers increase or decrease? How would a small increase in elasticity affect the result?
8. [MC] Under which of the following circumstances would the incidence of an excise tax fall entirely on consumers?
- Demand is perfectly elastic.
 - Supply is perfectly elastic.
 - Both demand and supply are unit elastic.
 - ALL OF THE ABOVE.
9. [MC] If there are two producers who each produce the same two products, which of the following cannot happen?
- One producer has an absolute advantage on one of the products.
 - One producer has a comparative advantage on one of the products.
 - One producer has the comparative advantage on both products.
 - One producer has the absolute advantage on both products.
10. Explain why some economists and policy makers believe that specialization and trade is better than autarchy. Is specialization and trade a Pareto improvement over autarchy? Explain.
11. At its peak, the *Medellin Cartel*, led by the infamous *Pablo Escobar*, was estimated to control more than 90% of the global cocaine market. Explain why a drug cartel can have a comparative advantage in trading illegal drugs.

12. Michael and LeBron James are very good friends because both of them are interested in two things only: scoring points in NBA basketball games and writing about economics. LeBron could score 50 points in an NBA game, or he could write 10 pages of economics instead. Michael, though not as tall and not such a great passer, is in excellent shape, so he could score 10 points, or write 5 pages of economics.
- Who has an absolute advantage in scoring in the NBA? In writing about economics?
 - Calculate the opportunity cost of scoring 10 points in terms of sacrificed pages of economics for both LeBron and Michael.
 - Based on your previous answer, who has a comparative advantage in NBA scoring? In writing about economics.
 - If LeBron and Michael are such good friends that they only care about the joint number of NBA points and economics pages that they obtain together, what should each of them do during the next 20 basketball games?
13. Professor M would like his EC101 students to learn a lot (efficiency) but he would also like to have a fair distribution of grades (equity).
- The Head TF announces that every student who gets less than 70% on the final exam will fail the course. Is this a good incentive for studying? Is it good for equity?
 - Answer the same question as in the previous part if the Head TF decides he was being too nice and announces to fail everyone with less than 95% on the final exam.
 - One of the TFs (a much nicer one) wants to give a B+ to all the students. Is this a good for learning? Does it increase equity?
 - Professor M announces that he will fail everyone who doesn't get 70% on the final exam. However, on the day of the exam, he cancels the exam and gives everyone an A-. Will this increase efficiency and learning? Is it good for equity?
14. Explain why it is difficult to establish a high rate of economic growth and a high level of equity at the same time.
15. In each of the following situations there is a deadweight loss. Graph each of these situations and shade the area corresponding to the deadweight loss.
- Binding price ceiling.
 - Binding price floor.
 - Tax.
 - Subsidy.
16. Carl is a carpenter and builds small homes. Peter is a kid who has no real skills and lives next door. The following table shows how many hours it takes for them to build a home and mow Carl's grass. Using the table, answer the following questions:

Hours to complete task		
Person	Mow Carl's lawn	Build a home
Carl	1 hour	200 hours
Peter	2 hours	50 hours

- Who has the absolute advantage in each task?
- Who has the comparative advantage in each task?
- Suppose Peter wants a home, and Carl wants to have his lawn mown every week. Could trade make both Carl and Peter better off?