

ECON/ENVR/SOSC 2310 Assignment 2

(March 26)

1. True or false, explain
 - a. Often, the tax revenue collected by the government equals the reduced welfare of buyers and sellers caused by the tax.
 - b. The deadweight loss of a tax rises even more rapidly than the size of the tax.
 - c. When weighing the costs and benefits of pollution, the costs always exceed the benefits because the benefit equals zero.
 - d. When there is a negative externality, the government can use quota or tax to reduce the external cost to zero and maximize social welfare.

2. Suppose that a market is described by the following supply and demand equations:
 $Q_S = 2P$, $Q_D = 300 - P$
 - a. Solve for the equilibrium price and the equilibrium quantity.
 - b. Suppose that a tax of T (per unit of the good) is placed on buyers. Solve for the new equilibrium. What happens to the price received by sellers, the price paid by buyers, and the quantity sold?
 - c. Use your answers to part (b) to solve for tax revenue as a function of T . Graph this relationship for T between 0 and 300.
 - d. Solve for deadweight loss as a function of T . Graph this relation for T between 0 and 300.
 - e. The government wants to maximize its tax revenue. The government now levies a tax on this good of \$200 per unit. Is this a good policy? Why or why not? Can you propose a better policy?

3. The government has decided that the free-market price of cheese is too low.
 - a. Suppose the government imposes a binding price floor in the cheese market. Draw a supply and demand diagram to show the effect of this policy on the price of cheese and the quantity of cheese sold. Is there a shortage or surplus of cheese?
 - b. Farmers complain that the price floor has reduced their total revenue. Is this possible? Explain.
 - c. In response to farmers' complaints, the government agrees to purchase all the surplus cheese at the price floor. Compared to the basic price floor, who benefits from this new policy? Who loses?
 - d. Since the government cannot resell the surplus cheese to the market (this will change the market price), so it decides to store and spoil them. Conduct a welfare analysis.

4. The below figure indicates the supply and curve for domestic steel market in US. Point E refers to the domestic market's equilibrium point when trade with other countries is not allowed.

(1) Fill in the Column (1) of Table 1 when the US steel market is not open to the rest of world.

(2) Fill in the Columns (2) and (3) of Table 4 when free trade is allowed, and the world price of steel is P_w .

(3) Fill in the Columns (4) and (5) of Table 4 when the US government sets a tariff for steel import from other countries.

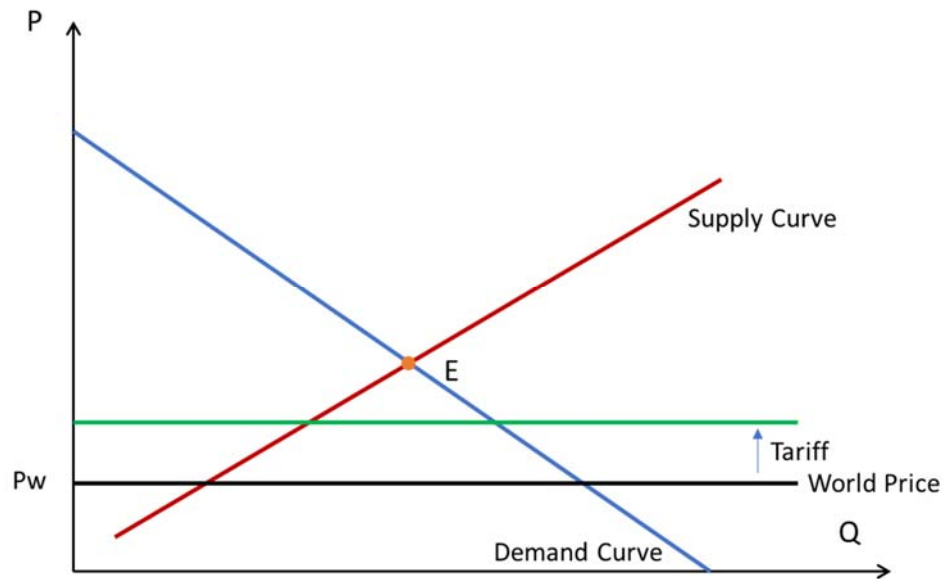


Figure. Demand and Supply Curve for Steel Market

Table 1. Welfare Analysis for the Steel Market

	Before Free Trade	After Free Trade	Change (2) – (1)	Trade with Tariff	Change (4) – (2)
	(1)	(2)	(3)	(4)	(5)
CS					
PS					
SW					

5. LAS VEGAS — A gunman on a high floor of a Las Vegas hotel rained a rapid-fire barrage on an outdoor concert festival on 2017 Oct, leaving at least 59 people dead, injuring 527 others, and sending thousands of terrified survivors fleeing for cover, in one of the deadliest mass shootings in American history. More details of the attack can be found: <https://www.nytimes.com/2017/10/02/us/las-vegas-shooting.html>

- a. Would fewer people owning guns mean there would be fewer gun-related deaths?
- b. Do you support gun control or not? Use an economic model to show your arguments. (note that people have very strong opinions and political beliefs regarding guns, here you need to think about economic argument.)
- c. What can and should government do to keep the public safe?