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HW#6 Due March 4, 2021

9. At Fenway Park, home of the Boston Red Sox, seating is limited to about 38,000. Hence, the number of tickets issued is fixed at that figure. Seeing a golden opportunity to raise revenue, the City of Boston levies a per ticket tax of \$5 to be paid by the ticket buyer. Boston sports fans, a famously civic-minded lot, dutifully send in the \$5 per ticket. Draw a well-labeled graph showing the impact of the tax. On whom does the tax burden fall—the team's owners, the fans, or both? Why?
10. A market is described by the following supply and demand curves:

$$Q^S = 2P$$

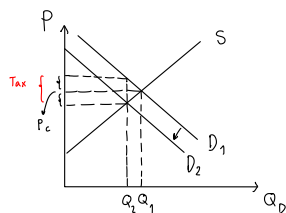
$$Q^D = 300 - P$$

- Solve for the equilibrium price and quantity.
- If the government imposes a price ceiling of \$90, does a shortage or surplus (or neither) develop? What are the price, quantity supplied, quantity demanded, and size of the shortage or surplus?
- If the government imposes a price floor of \$90, does a shortage or surplus (or neither) develop? What are the price, quantity supplied, quantity demanded, and size of the shortage or surplus? *excess Demand* *excess Supply*
- Instead of a price control, the government levies a tax on producers of \$30. As a result, the new supply curve is:

$$Q^S = 2(P - 30).$$

Does a shortage or surplus (or neither) develop? What are the price, quantity supplied, quantity demanded, and size of the shortage or surplus?

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The burden falls on both team's owners and fans, but more burden falls on fans because the demand for tickets is inelastic as compared to the supply

- (b) If the government imposes a price ceiling of \$20, a shortage develops. The ceiling is below the equilibrium price (\$100), so it is a binding price ceiling.
- $$Q_D = 300 - 90 = 210 \text{ units}$$
- $$Q_S = 2(90) = 180 \text{ units}$$
- ∴ Consumers want to buy 30 more units than producers want to sell at the price ceiling (\$20)

- (c) If the government imposes a price floor of \$90, neither a shortage nor a surplus develops. The floor is lower than the equilibrium price, so it is not binding price floor.
- The equilibrium price = \$100
 $Q_S = Q_D = 200 \text{ units}$

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(a) $2P = 300 - P$
 $3P = 300$
 $P = \$100$ #
 $Q_D = 300 - 100$
 $= 200$ #

(d)

A tax on producers shifts the supply curve to the left, thereby shrinking the size of the market. However, it does not prevent the market from moving toward a new equilibrium, hence it will not lead to a shortage or surplus

$$Q_S = Q_D$$

$$2(P-30) = 300 - P$$

$$2P - 60 = 300 - P$$

$$3P = 360$$

$$P = 120 \text{ \$}$$

$$Q_S = 2(P-30) = 2(120-30) = 180 \text{ #}$$

$$Q_D = 300 - 120 = 180 \text{ #}$$

(Neither a shortage nor a surplus)