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HW#6 Due March 4, 2021

Q_S

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:

$$Q^S = 2P$$
$$Q^D = 300 - P$$

a. Solve for the equilibrium price and quantity.

b. 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?

c. 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?

d. 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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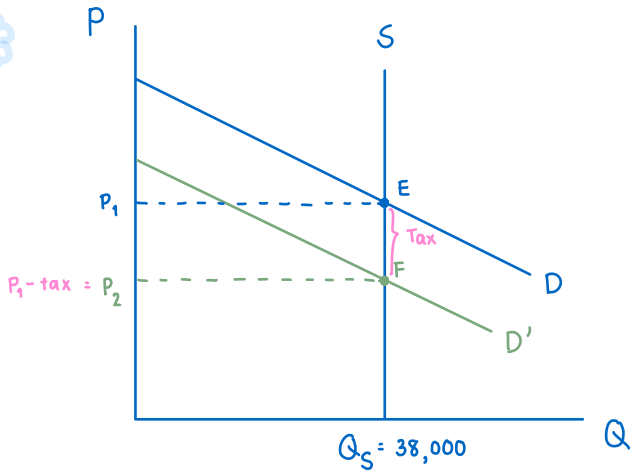

the tax of $5 per ticket causes the demand curve to shift down as the tax burden fall to the team's owner, so the price should be lower in order to sell at the same quantity.

$\frac{\eta_S^{=0}}{|\eta_D|} = \frac{\text{buyers' burden}}{\text{sellers' burden}} = \frac{0}{\sim}$ sellers take all 100% burden of tax

The supply curve is perfectly inelastic.

10 a) Solve for eq. price & quantity

$Q_S = 2P$

$Q_D = 300 - P$

$2P = 300 - P$

$3P = 300$

eq. $P = 100$

$Q_S = 2(100) = 200$

$Q_D = 300 - 100 = 200$

eq. $Q = 200$

b) price ceiling = \$90 (P_{max}) – below equilibrium price (\$100)

$Q_S = 2(90)$

$= 180$

$Q_D = 300 - 90$

$= 210$

$\therefore Q_D > Q_S$

$210 > 180$

which means there's an excess demand or shortage of Q. supplied for 30 units.

c) price floor = \$90 (P_{min}) – below equilibrium price (\$100)

∴ Since the price floor is less than the equilibrium price, it is ineffective as the price floor aims to increase the market price. If this continues the market price will still be \$100 at Q of 200, so neither surplus nor shortage is developed in this case.

d) Tax on producers = \$30

S' : $Q_S = 2(P - 30)$

D : $Q_D = 300 - P$

With same price (\$100): $Q_S = 2(100 - 30)$

$= 140$

$Q_D = 300 - 100 = 200$

$\therefore Q_D > Q_S$

$200 > 140$

there's a shortage of supply by 60 units.