Micro Tutorial Week 4

Friday Feb 2021

Topics Covered:

1. Price floors
2. Price ceilings
3. Taxes

Question

The table below shows the supply and demand schedules for the market for chewing gum. The government is analyzing imposing several policies on this market.

	Initial		Supply with tax	Demand with tax
P	Q^D	Q^S	$Q^{S'}$	$Q^{D'}$
$ 1.00	1000	0	0	800
$ 1.50	900	100	0	700
$ 2.00	800	200	0	600
$ 2.50	700	300	100	500
$ 3.00	600	400	200	400
$ 3.50	500	500	300	300
$ 4.00	400	600	400	200
$ 4.50	300	700	500	100
$ 5.00	200	800	600	0

Question 1

What is the initial equilibrium in this market before any policy is implemented?

Question 2

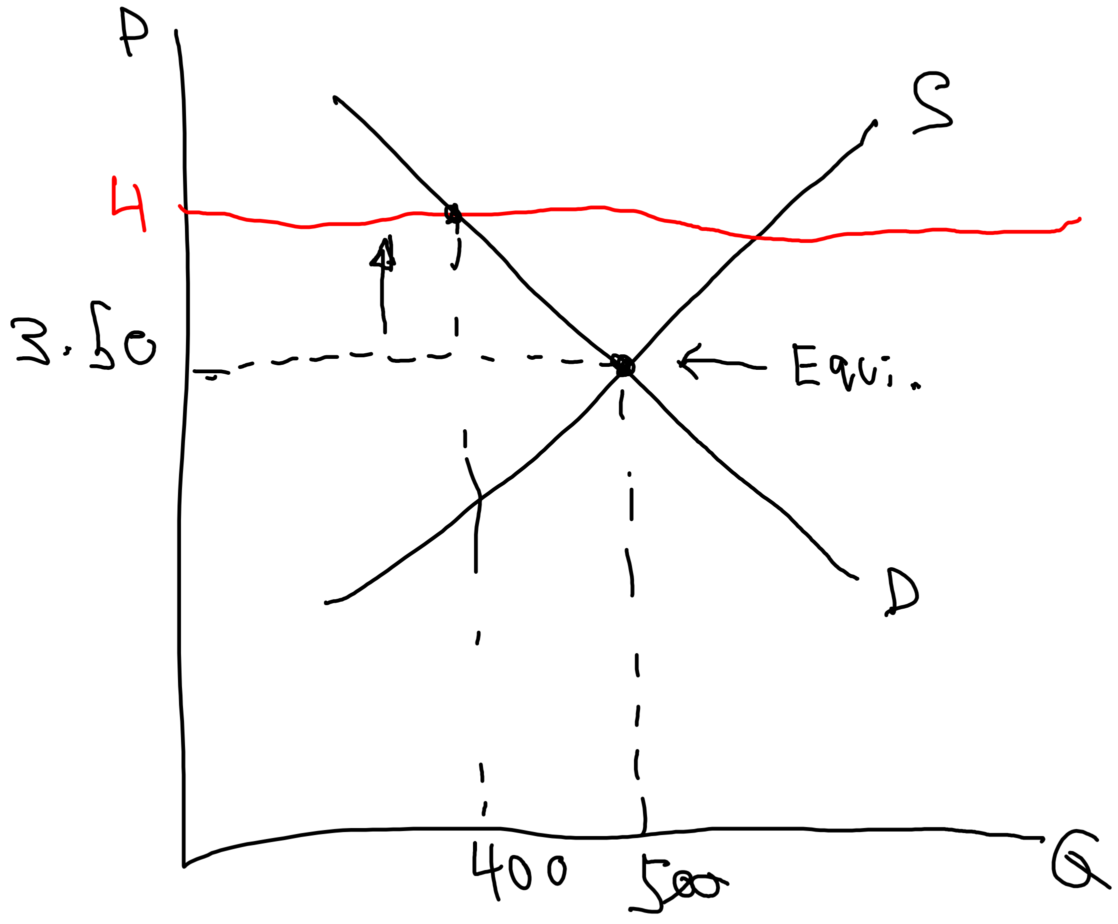
The chewing gum producers are lobbying for the government to implement a price floor (or minimum price) of $4 per unit.

a) Is this price floor binding?
b) Describe the outcome of imposing this price floor on the quantity demanded, the quantity supplied and the quantity transacted.
c) Who gains and who loses from this policy?

Question 2

The chewing gum producers are lobbying for the government to implement a price floor (or minimum price) of $4 per unit.

a) Is this price floor binding?



P
S
4
3.50
Equi.
D
400
500
Q

Question 2

The chewing gum producers are lobbying for the government to implement a price floor (or minimum price) of $4 per unit.

> Describe the outcome of imposing this price floor on the quantity demanded, the quantity supplied and the quantity transacted.

Question 2

The chewing gum producers are lobbying for the government to implement a price floor (or minimum price) of $4 per unit.

Who gains and who loses from this policy?

Buyers: Lose buying more for Less

Sellers: ? but TR↓

$TR = \uparrow P \cdot Q \downarrow$

$TR' = 1600$

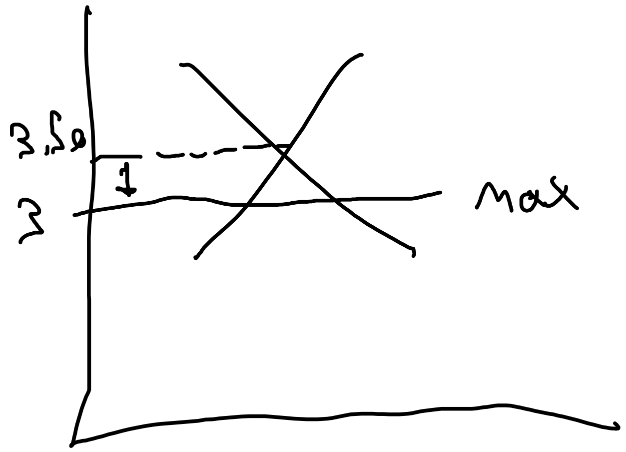
$TR = 1750$

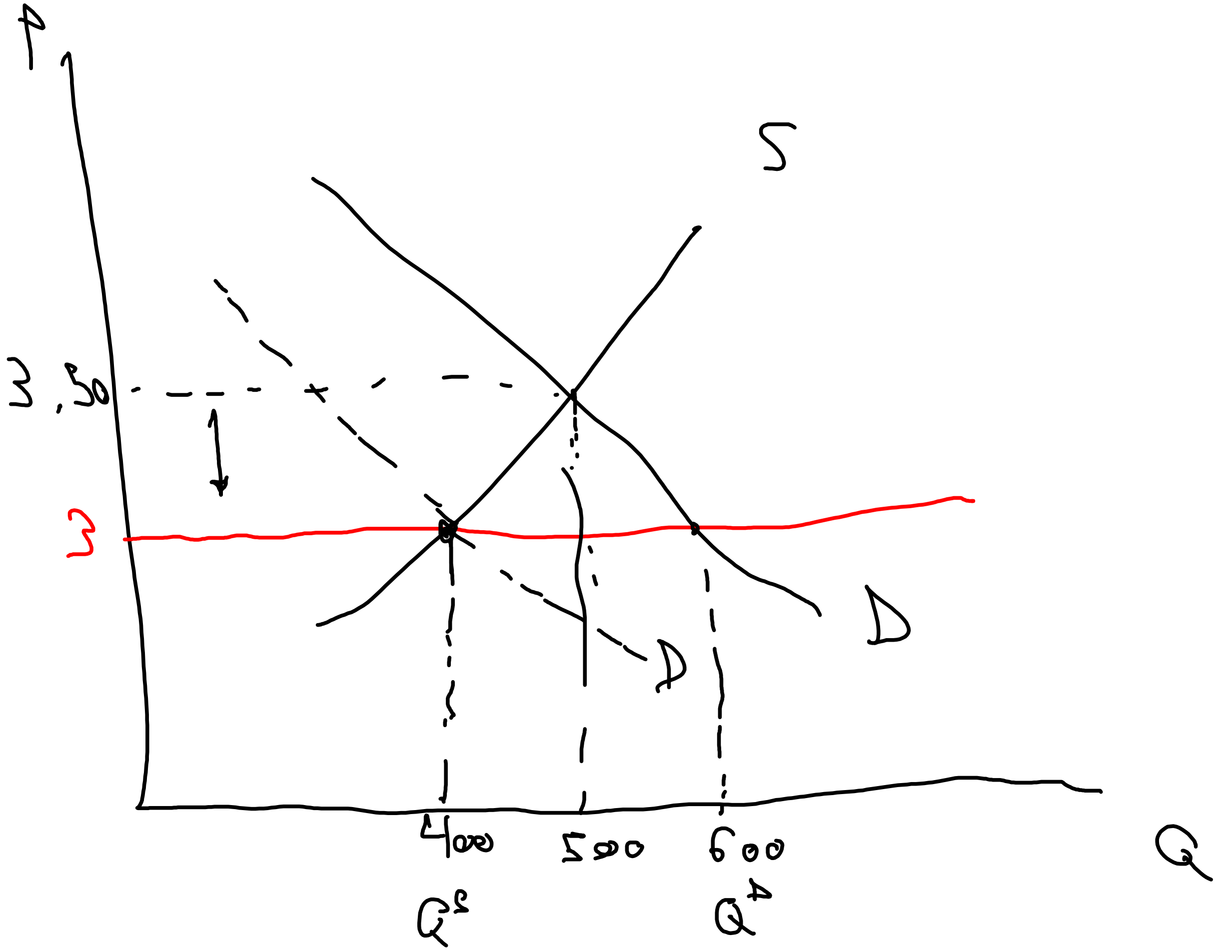
Question 3

The student councils of the local universities are lobbying for the government to implement a price ceiling (or maximum price) of $3 per unit.

(a) Is this price ceiling binding?

Yes




P
S
3,50
3
D
D
400
500
600
Q
Q^S
Q^D

Question 3

The student councils of the local universities are lobbying for the government to implement a price ceiling (or maximum price) of $3 per unit.

> Describe the outcome of imposing this price ceiling on the quantity demanded, the quantity supplied and the quantity transacted.

Question 3

The student councils of the local universities are lobbying for the government to implement a price ceiling (or maximum price) of $3 per unit.

Who gains and who loses from this policy?

Buyers : ?

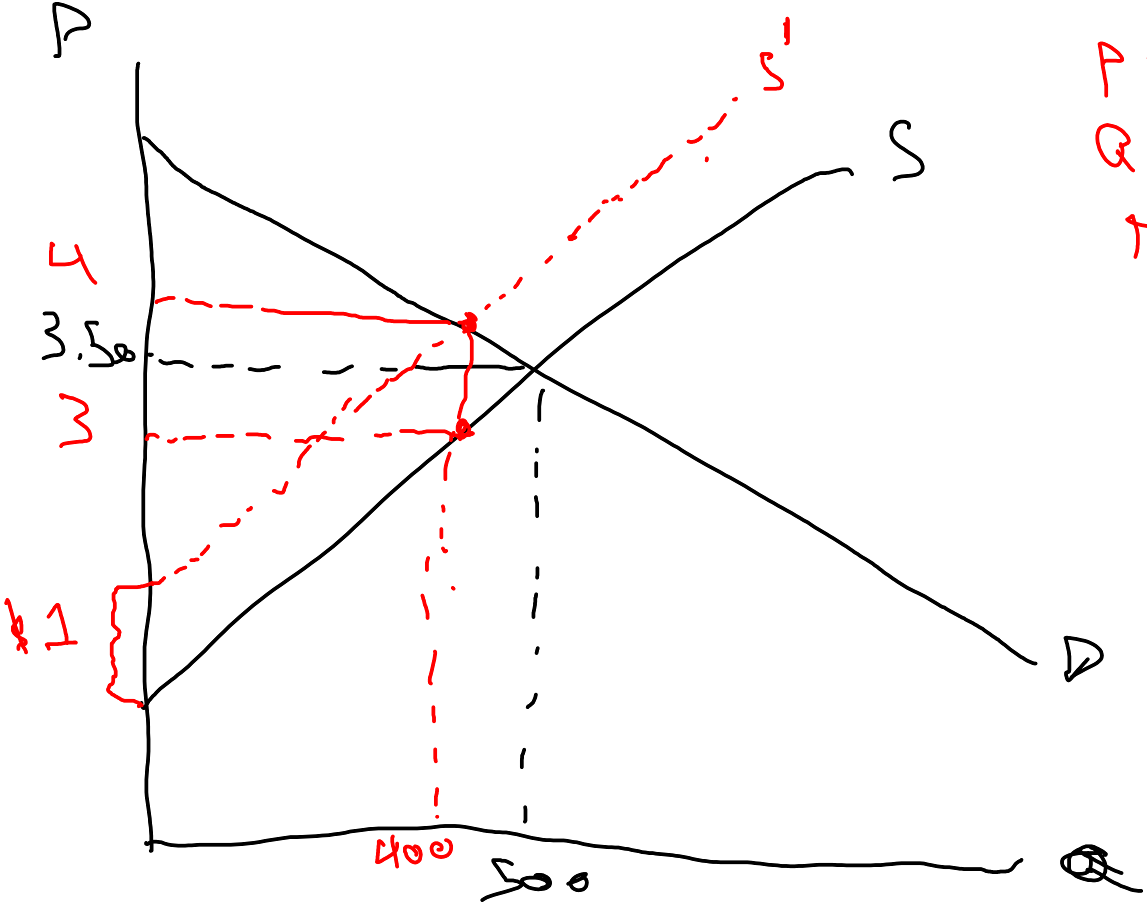
Sellers : ↓P ↓Q Lose! Selling less
at cheaper prices

Question 4

Sellers → Supply
Buyers → Demand

Suppose the government imposes a $1 tax per unit on sellers of chewing gum. The new supply curve, including the cost of the tax, is Qs' .

i) What is the new equilibrium after the tax on sellers is imposed?



P = 4

Q = 400

Tax shift

supply left

Question 4

Suppose the government imposes a $1 tax per unit on sellers of chewing gum. The new supply curve, including the cost of the tax, is Qs' .

ii) What is the price that consumers pay?

P = $4

↑ 0.50

↑

P = 3.50

Question 4

Suppose the government imposes a $1 tax per unit on sellers of chewing gum. The new supply curve, including the cost of the tax, is Qs' .

iii) What is the price that sellers receive after they have paid the tax to the government?

$P = \$3$ $\uparrow 0.50$

$P^{*} = 3.50$

$4 - 3 = 1$

Question 4

Suppose the government imposes a $1 tax per unit on sellers of chewing gum. The new supply curve, including the cost of the tax, is Qs' .

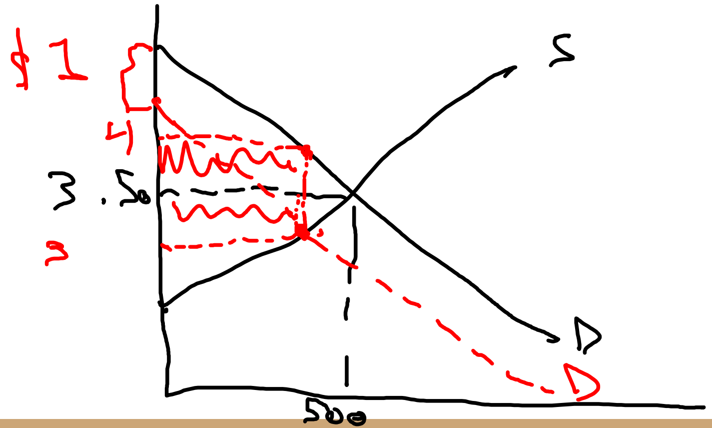
iv) How much of the tax is borne by the seller and how much by the buyer?

50/50

Question 4

Suppose that instead, the government imposes a $1 tax per unit on buyers of chewing gum. The new demand curve, including the cost of the tax, is Qd’, while the supply curve goes back to its initial level

What is the new equilibrium after the tax on sellers is imposed?



50/50

$4 - 3.50 = 0.50$ +

$3.50 - 3 = 0.50$

Question 4

Suppose that instead, the government imposes a $1 tax per unit on buyers of chewing gum. The new demand curve, including the cost of the tax, is Qd', while the supply curve goes back to its initial level

What is the price that consumers pay with the tax?

Look at point on demand curve orig.

$P = \cancel{\$}\,4$

Question 4

Suppose that instead, the government imposes a $1 tax per unit on buyers of chewing gum. The new demand curve, including the cost of the tax, is Qd', while the supply curve goes back to its initial level

What is the price that sellers receive? Leave at Supply point

$P = 3$

Question 4

Suppose that instead, the government imposes a $1 tax per unit on buyers of chewing gum. The new demand curve, including the cost of the tax, is Qd', while the supply curve goes back to its initial level

How much of the tax is borne by the seller and how much by the buyer?

50 / 30

Question 4

Suppose that instead, the government imposes a $1 tax per unit on buyers of chewing gum. The new demand curve, including the cost of the tax, is Qd', while the supply curve goes back to its initial level

Complete the table below summarizing your answers for (1) and 4 (a)-(b). Is it better for the government to charge the tax to buyers or to sellers?

	Scenario		
	No tax	Tax paid by sellers	Tax paid by buyers
Equilibrium quantity: Q^*	500	400	400
Equilibrium price: P^*	3.50	$4	3
Final price paid by consumers	3.50	$4	4
Final price received by sellers	3.50	3.	3
Tax borne by consumers	0	0.5	0.5
Tax borne by sellers	0	0.5	0.5

EFFECT → same
→ does NOT matter