

EE211 Assignment #1 (2/2020)

Instructions:

- Assigned date is Thursday the 18th, Feb 2021. Due date is Thursday the 25th, Feb 2021 before class at 08.00 AM.
 - Submission is only received through BE Moodle platform as PDF file.
 - Name your file as StudentID_nickname, such as 1234567489_Bo.
 - There is no need to rewrite the question into your answer sheets, however, indicate clearly question and item number.
 - Write your nickname and student ID on top-right corner of the first page.
 - For those who do not have a digital device to write on, you can write your answers in sheets of paper, take pictures, convert them to PDF and merge them into a single file.
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1. Suppose that a baker can produce muffins and cupcakes. If she uses all her resources on producing muffins, she can bake 120 muffins. If she produces only cupcakes, she can bake 100 cupcakes.

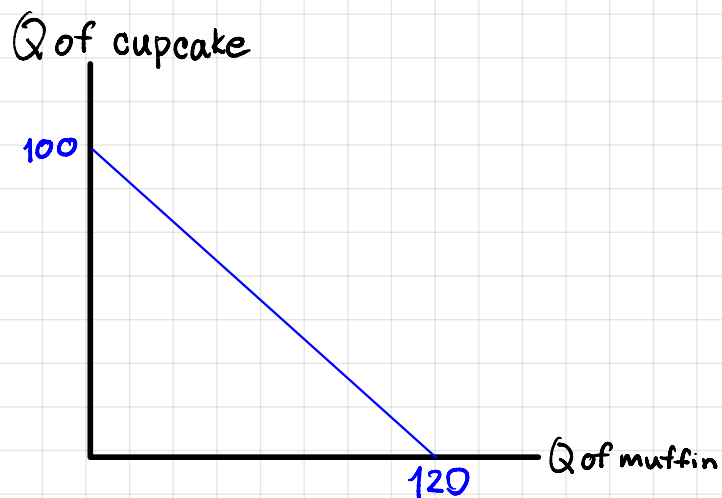
(a) Draw the Production Possibility Curve of this baker, where the x-axis represents the quantity of muffins and y-axis represents the quantity of cupcakes. Assume that the PPC is a straight line. What is the opportunity cost of each cupcake?

(b) With her available resources, can this baker make 60 cupcakes and 50 muffins? Justify your answer.

(X) If the baker learns a new technique and now the maximum quantity of muffins she can produce is 150 muffins, while the maximum quantity of cupcakes she can produce is still 100 cupcakes, *ceteris paribus*. Will the opportunity cost of each cupcake increase or decrease, and by what amount? Illustrate the change of the Production Possibility Curve of this baker.

1. Suppose that a baker can produce muffins and cupcakes. If she uses all her resources on producing muffins, she can bake 120 muffins. If she produces only cupcakes, she can bake 100 cupcakes.

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Opp of cupcake = 120

∴ opp for each cupcake

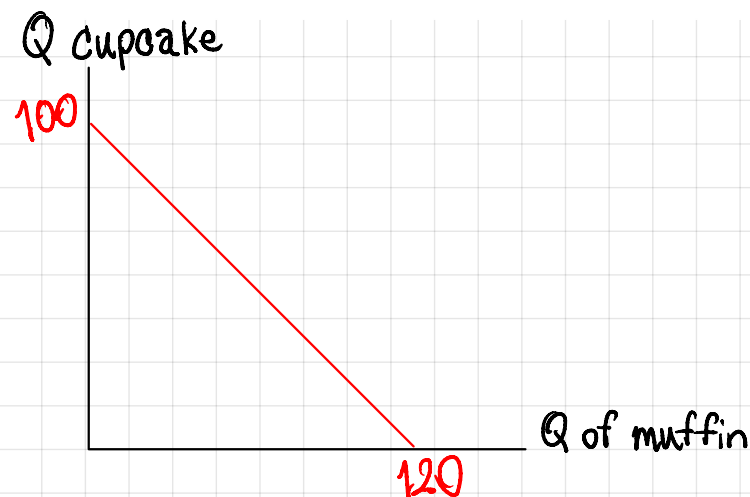
= (0, 100) (120, 0)

+ 100 - 120

+ 5 - 6

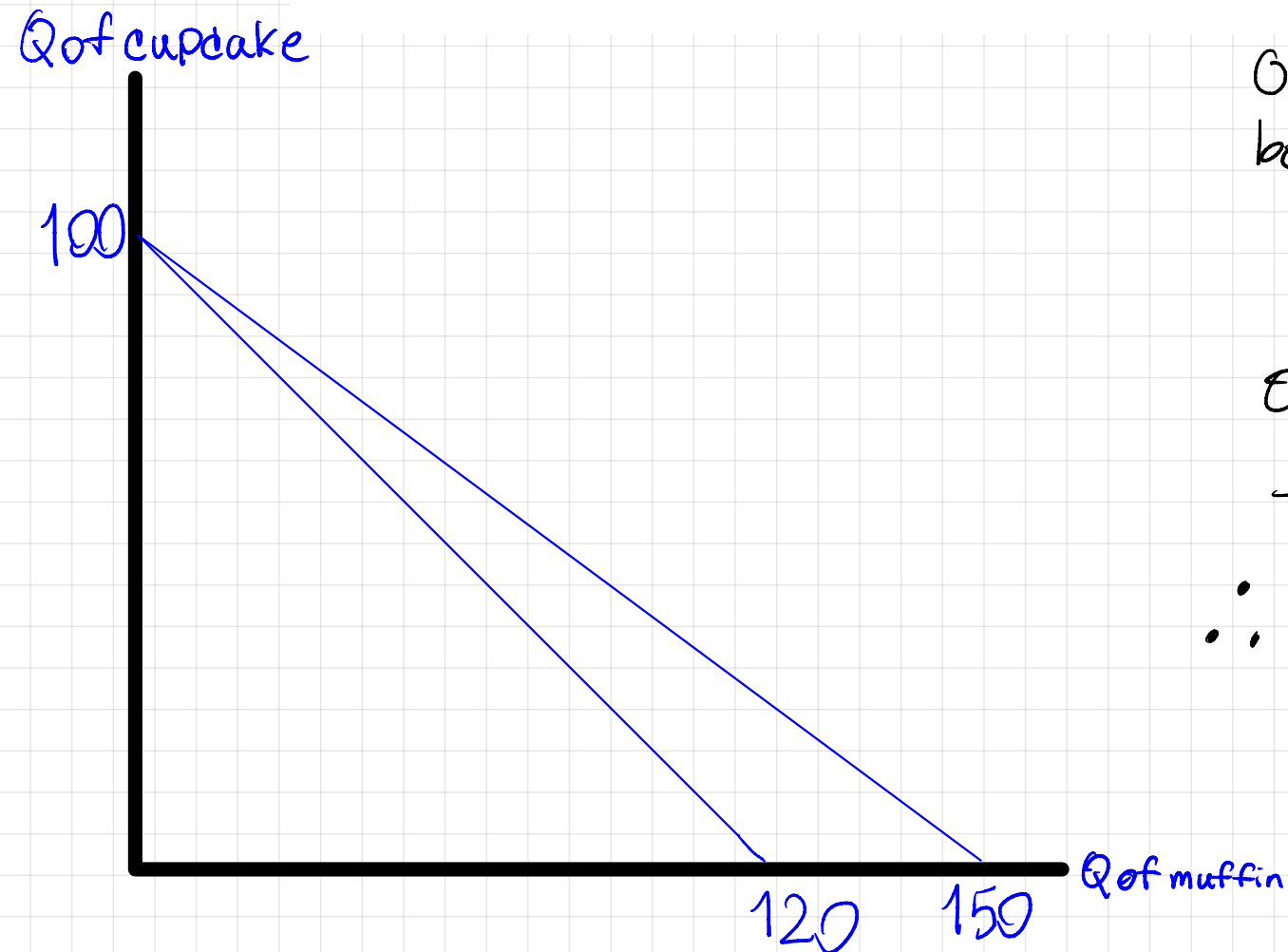
$$\frac{-6}{5} = -1.2$$

(b) With her available resources, can this baker make 60 cupcakes and 50 muffins? Justify your answer.



Opp cost to make each cupcake is losing 1.2 muffin if she want to make 60 cupcake it will leave resource to make 48 muffin the answer is no

(X) If the baker learns a new technique and now the maximum quantity of muffins she can produce is 150 muffins, while the maximum quantity of cupcakes she can produce is still 100 cupcakes, *ceteris paribus*. Will the opportunity cost of each cupcake increase or decrease, and by what amount? Illustrate the change of the Production Possibility Curve of this baker.



Opp cost for each cupcake
before new technique

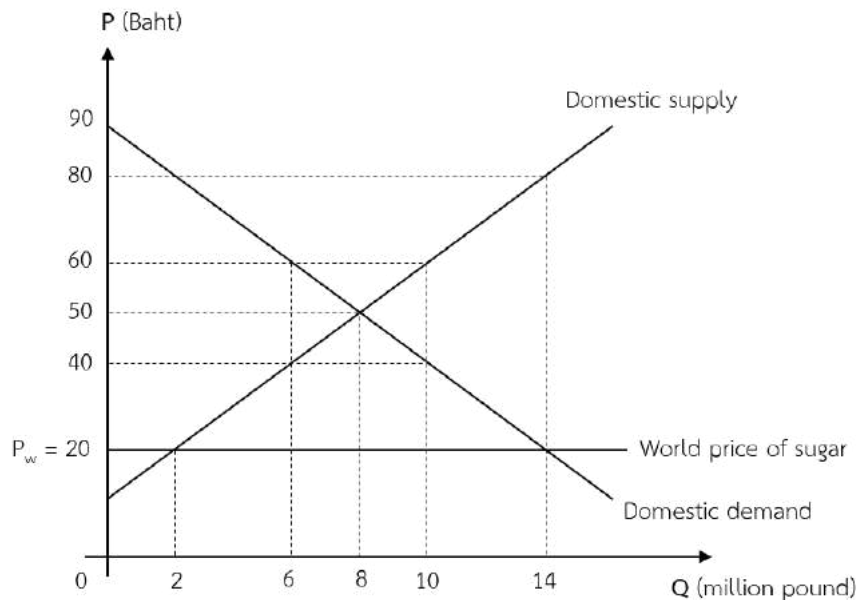
$$-\frac{6}{5} = -1.2$$

Opp cost after got new tech

$$-\frac{100}{150} = -1.5$$

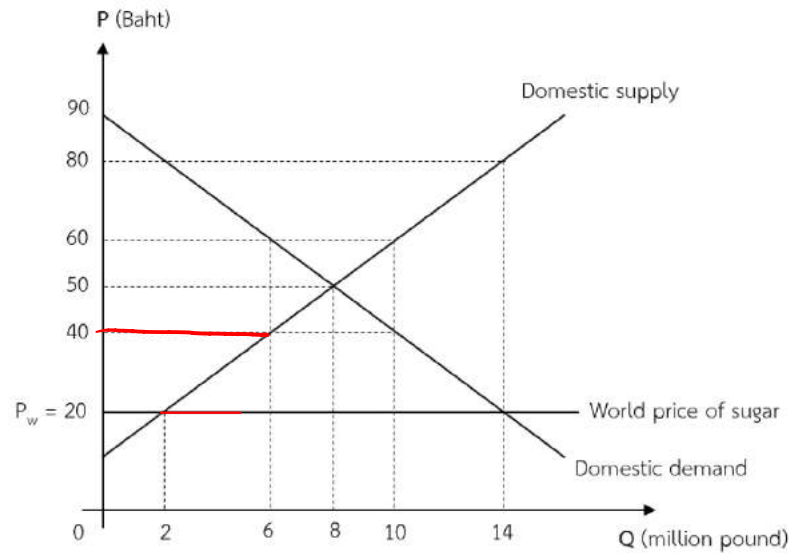
∴ opp cost for each cupcake will
decrease from -1.2 to -1.5

2. Supposed that sugar is traded freely in the world market, Thai people consume domestically produced sugar while the rest is imported. Given that world market price is 20 baht per pound and the government decides to set domestic ceiling price equally to the world price, below graph shows domestic demand, supply and world price level. Answer the following questions.



- (a) Supposed that Thailand takes world price, how many pounds of sugar is imported at the world price level?
- (b) If the government further decides to collect an import unit tax of 20 baht per pound and the price after tax becomes 40 baht per pound,
- (c) How much of the sugar is domestically produced in Thailand after tax?
- (d) After the import tax is imposed, compute the change in consumer surplus. Also highlight the change in consumer surplus in the provided graph. Are the domestic consumers better off or worse off? Clearly explain your answer.
- (e) Compute the government revenue from the import tax and identify its area in the provided graph. Clearly explain why the area identified above represents the government revenue from the import tax.

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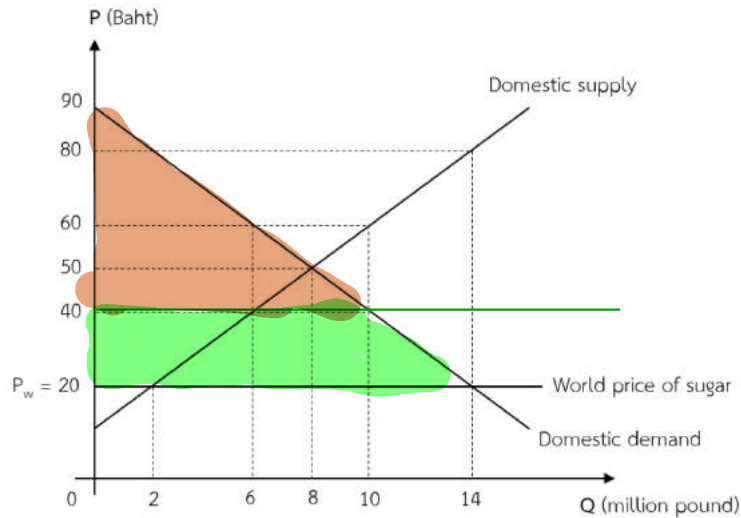
Now there is an excess demand
 domestic demand is 14 million pounds
 domestic supply is 2 million pounds
 so Thailand should import sugar 12 million pounds

(b) If the government further decides to collect an import unit tax of 20 baht per pound and the price after tax becomes 40 baht per pound,

(c) How much of the sugar is domestically produced in Thailand after tax?

price after tax is 40 baht per pound so higher price will make producer to produce more and domestic supply will increase from 2 million to 6 million pounds

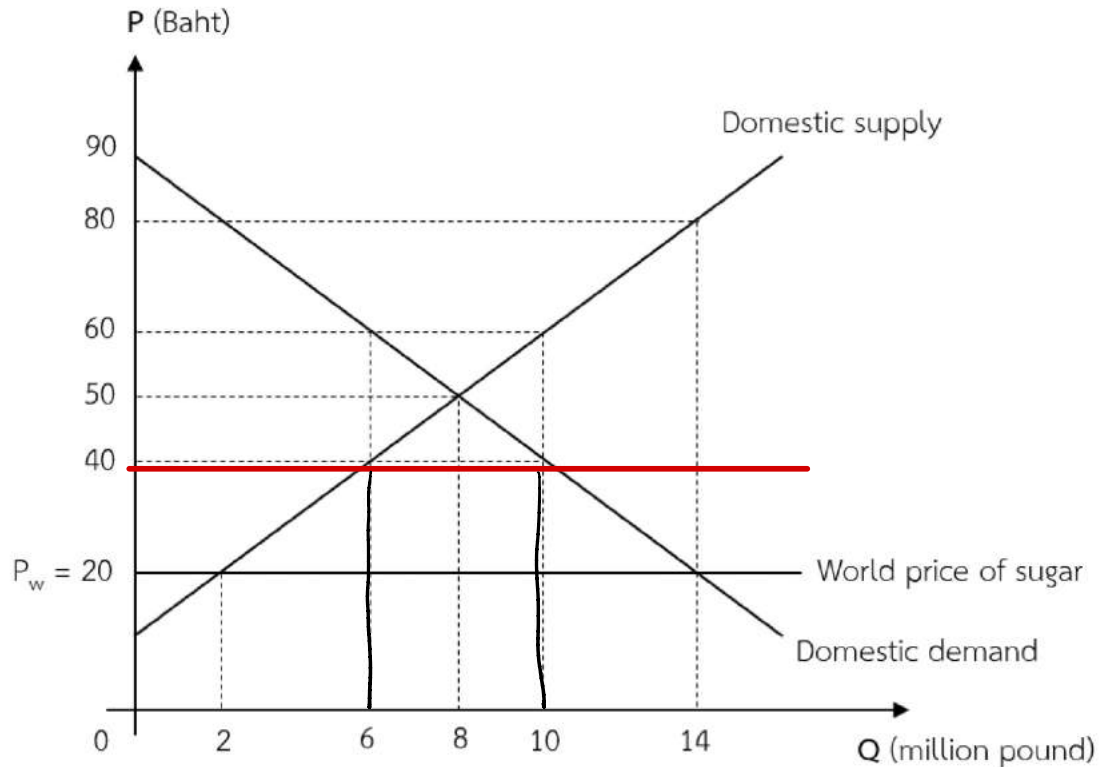
(d) After the import tax is imposed, compute the change in consumer surplus. Also highlight the change in consumer surplus in the provided graph. Are the domestic consumers better off or worse off? Clearly explain your answer.



Before the tax the consumer surplus is ● + ● after the policy the consumer surplus change to ●

It is worse off because first consumer will purchase sugar at 20 Baht per pound but after the tax the new price is 40 Baht per pound so the purchase power might decrease

(e) Compute the government revenue from the import tax and identify its area in the provided graph. Clearly explain why the area identified above represents the government revenue from the import tax.



after import tax the price is 40 Baht Domestic supply is 6 million pound but Domestic demand is 10 million pound the different will be 4 million pound so the government import the sugar 4 million sugar and multiplies the tax 20 Baht per pound

so gov revenue is
 20×4
 $= 80$ million Baht

3. Suppose that the quantity demanded for sweetened green tea at Thammasat University is 5,000 bottles per month at the price 20 baht per bottle. Suppose further that the university imposes an excise tax of 5 baht per bottle so that the new price is 25 baht per bottle. At this new price, the quantity demanded drops to 3,000 bottles per month.

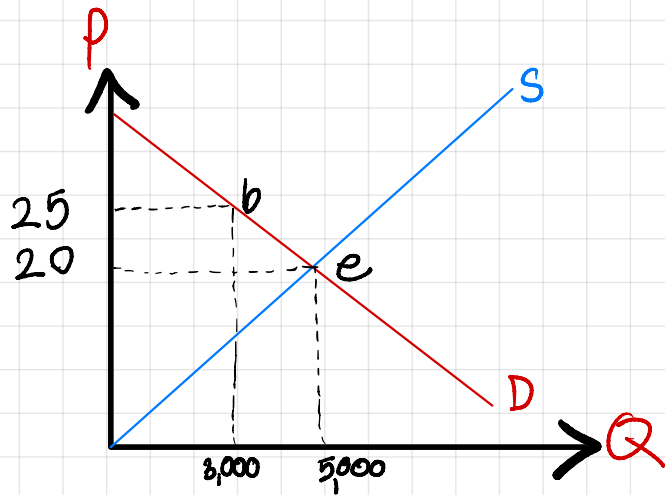
(a) Use POINT elasticity to calculate the price elasticity of demand at the NEW price.

(b) Without any calculation, would the total sale revenue from selling sweetened green tea at Thammasat University decrease or increase? Explain by using the concept of price elasticity of demand.

(c) Suppose that, as a result of imposing this tax on green tea, the quantity demanded for “Super Drink” increases from 2,500 to 3,000 bottles per month, all else constant. Calculate the cross-price elasticity of demand for “Super Drink”, with respect to the price of sweetened green tea.

(d) From part (c), are sweetened green tea and Super Drink complements or substitutes? Explain.

3. Suppose that the quantity demanded for sweetened green tea at Thammasat University is 5,000 bottles per month at the price 20 baht per bottle. Suppose further that the university imposes an excise tax of 5 baht per bottle so that the new price is 25 baht per bottle. At this new price, the quantity demanded drops to 3,000 bottles per month.



(a) Use POINT elasticity to calculate the price elasticity of demand at the NEW price.

$$\begin{aligned} \epsilon_d(b) &= \frac{Q_2 - Q_1}{P_2 - P_1} \cdot \frac{P}{Q} \\ &= \frac{3000 - 5000}{25 - 20} \cdot \frac{25}{3000} \\ &= \frac{-2000}{5} \cdot \frac{1}{120} \\ &= -3.333 \end{aligned}$$

(b) Without any calculation, would the total sale revenue from selling sweetened green tea at Thammasat University decrease or increase? Explain by using the concept of price elasticity of demand.

The revenue will decrease because price elasticity demand is -3.33 is mean when price increase 1% demand will decrease 3.33 so it will be less people to buy sweetened green tea

(c) Suppose that, as a result of imposing this tax on green tea, the quantity demanded for "Super Drink" increases from 2,500 to 3,000 bottles per month, all else constant. Calculate the cross-price elasticity of demand for "Super Drink", with respect to the price of sweetened green tea.

$$\begin{aligned} \epsilon_c &= \frac{Q_2 - Q_1}{P_2 - P_1} \cdot \frac{P}{Q} \\ &= \frac{3000 - 2500}{25 - 20} \cdot \frac{20}{2500} = 0.8 \end{aligned}$$

\therefore the cross price elasticity of demand for "super drink" is 0.8

(d) From part (c), are sweetened green tea and Super Drink complements or substitutes? Explain.

Substitute goods because when the price of sweetened green tea increase from 20 \rightarrow 25 people prefer super drink instead so Q demand for super drink increase 2,500 \rightarrow 3,000 bottles per month

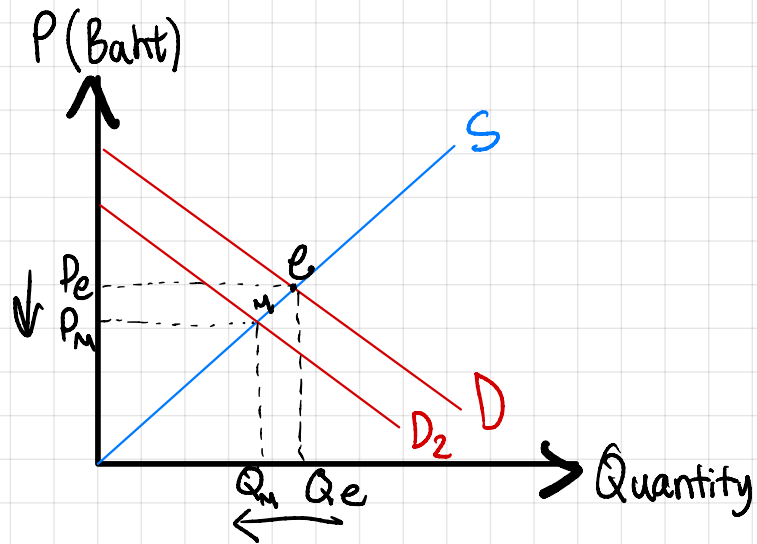
4. Consider a liquor market in a country, answer the following questions. If you have any specific assumption, please state them clearly within each item.

(a) Supposed that a Health Foundation which is an independent organization decides to put up a campaign showing how bad can alcoholic beverages affect health condition in long-term through several big billboards, what do you think will happen to this market, equilibrium price and quantity. Support your claim with economic reasoning.

(b) If the government decides to collect unit tax on sellers, show that how would this affects equilibrium price and quantity. Provide a clear explanation with support of a diagram.

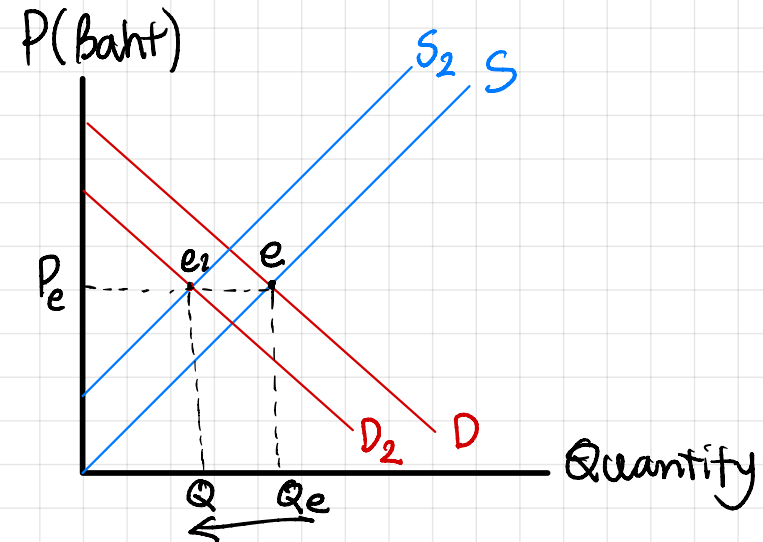
(c) There are two groups of liquor consumers: the alcoholic and the occasional drinkers. Does the unit tax affect both groups the same or differently. Provide a clear explanation with support of diagrams.

(a) Supposed that a Health Foundation which is an independent organization decides to put up a campaign showing how bad can alcoholic beverages affect health condition in long-term through several big billboards, what do you think will happen to this market, equilibrium price and quantity. Support your claim with economic reasoning.



I think because campaign is to get people realize alcoholic beverage so the demand will decrease also the supplies fell down and reach new equilibrium

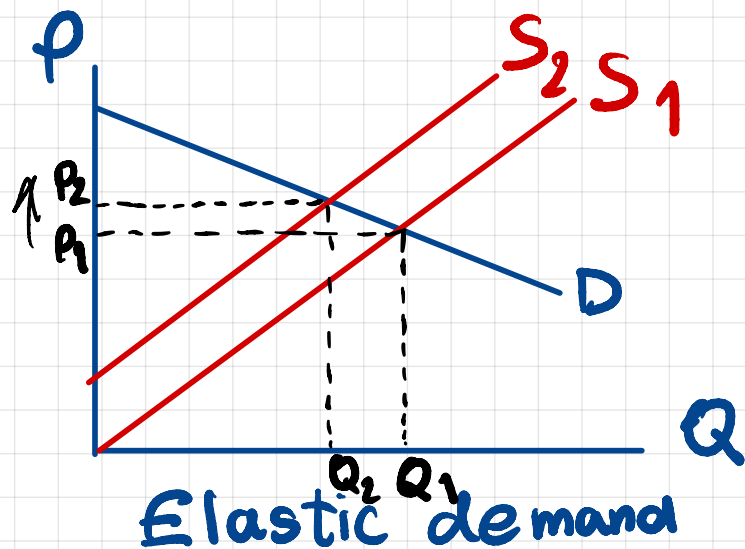
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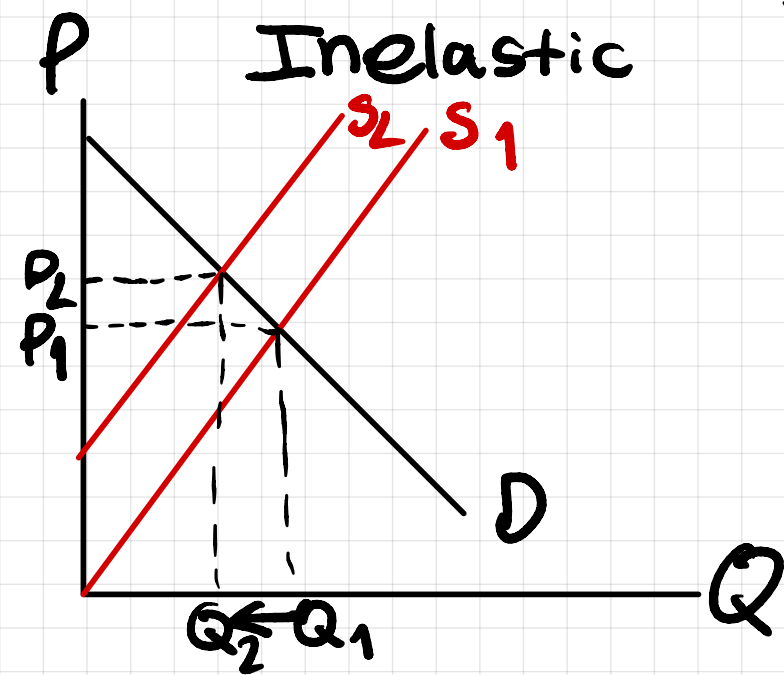
Supply will shift left and demand shift right because gov collect tax from seller so price still the same

(c) There are two groups of liquor consumers: the alcoholic and the occasional drinkers. Does the unit tax affect both groups the same or differently. Provide a clear explanation with support of diagrams.

I think it will affect both groups but not same level because alcoholic will buy more drink than occasional drinker so alcoholic need to pay more tax than another group



This show consumer group of occasional drinker because it is not necessary goods so when price of alcohol increase the quantity drop down



This is alcoholic group because alcohol is necessary goods so even the price go up it doesn't effect that much compare to occasion drinker so the quantity just drop a little.