Minnie 6304641795

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.

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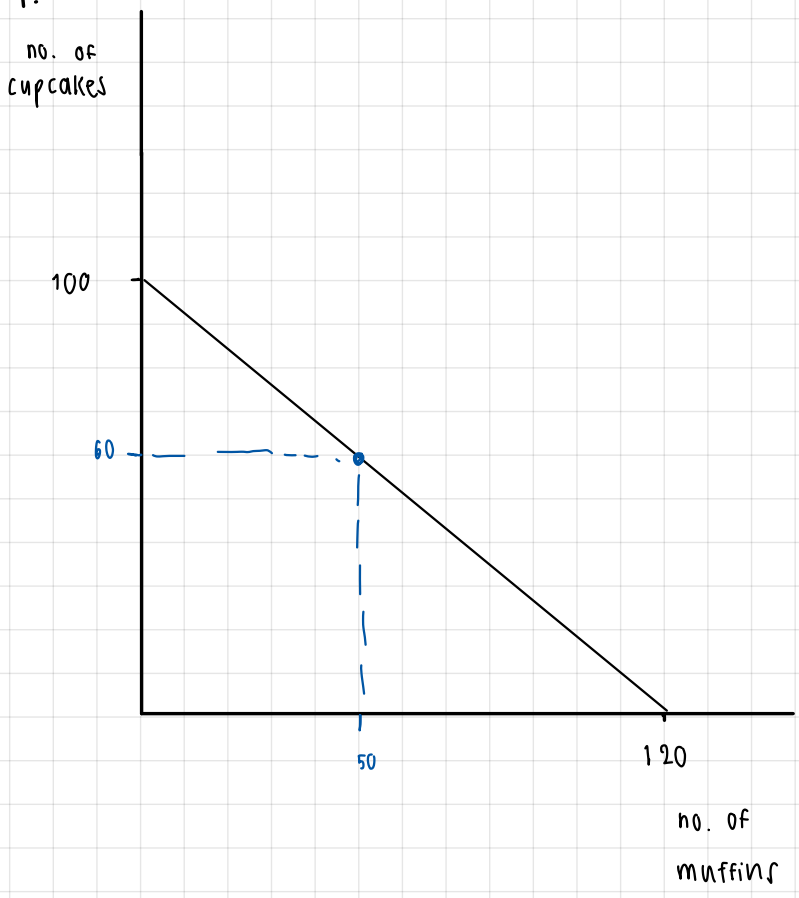
1.



a) opportunity cost of each cupcake

$\frac{120}{100} = 1.2$

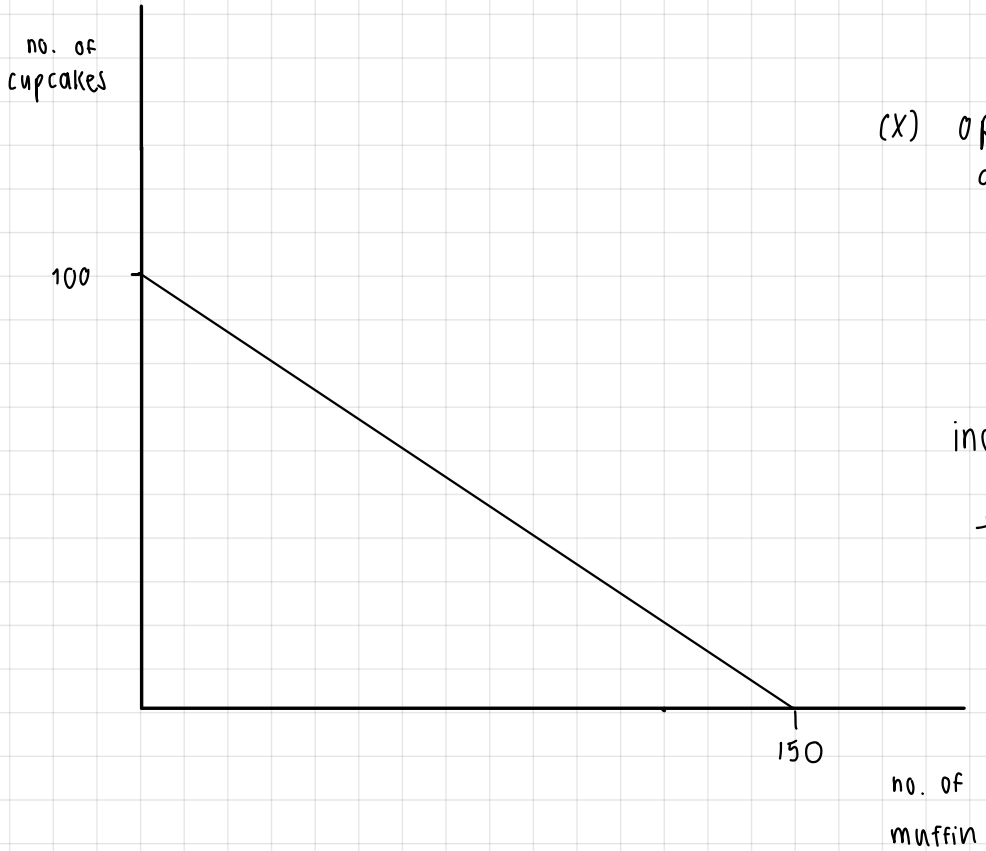
b) 60 cupcakes, 50 muffins

opp. cost of 1 cupcake 1.2

60 cupcakes = 72 muffins

120 - 72 = 48 muffins left

By producing 60 cupcakes, the opportunity cost is 72 muffins. The original resource can produce 120 muffins but based on opportunity cost, 72 muffins have been produce. so with the left over resources, she can only produce 48 muffins. Thus, there is not enough resources.



(x) opportunity cost of each cupcake

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

increases from 1.2 to 1.5.

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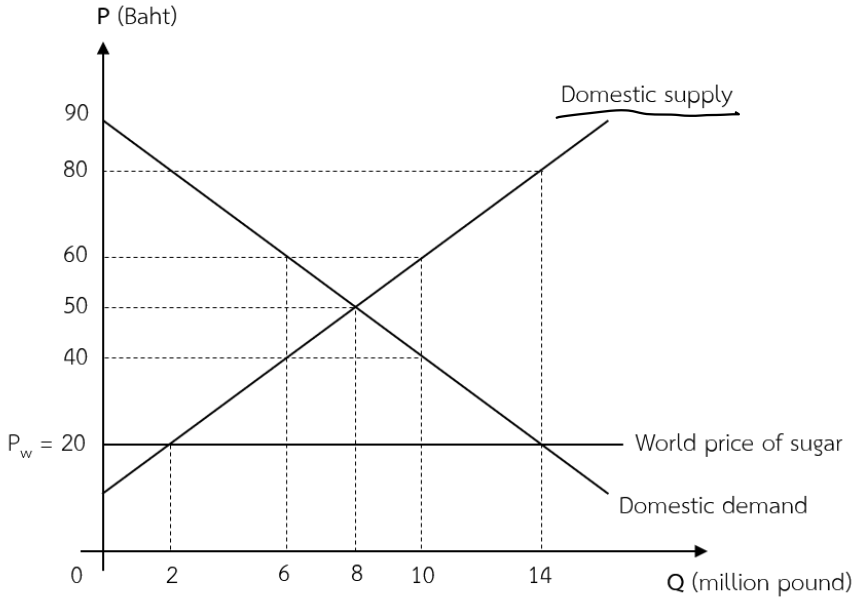
2. Supposed that sugar is traded freely in the world market, Thai people consume domestically produced sugar while the rest is imported. Given that world market price is 20 baht per pound and the government decides to set domestic ceiling price equally to the world price, below graph shows domestic demand,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



= ceiling price

(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?

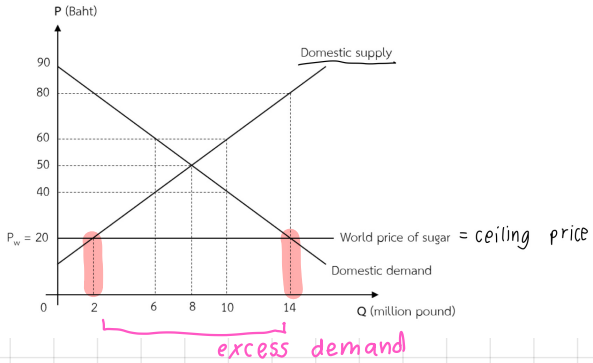
(d) After the import tax is imposed, compute the change in consumer surplus. Also highlight the change in consumer surplus in the provided graph. Are the domestic consumers better off or worse off? Clearly explain your answer.

(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.

(a) Supposed that Thailand takes world price, how many pounds of sugar is imported at the world price level?

12 million pounds.

That is because the domestic can only supply for 2 million pounds but Thailand demand for 14 million pounds therefore, they will need to import 12 million pounds to satisfy the domestic demand.



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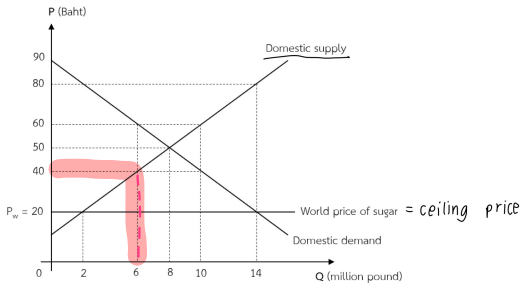
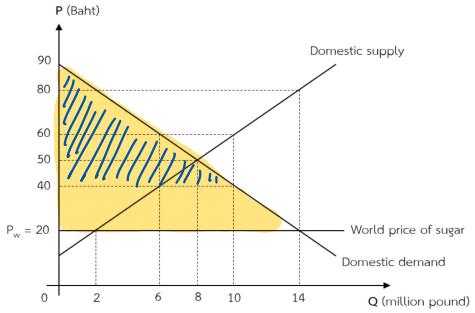


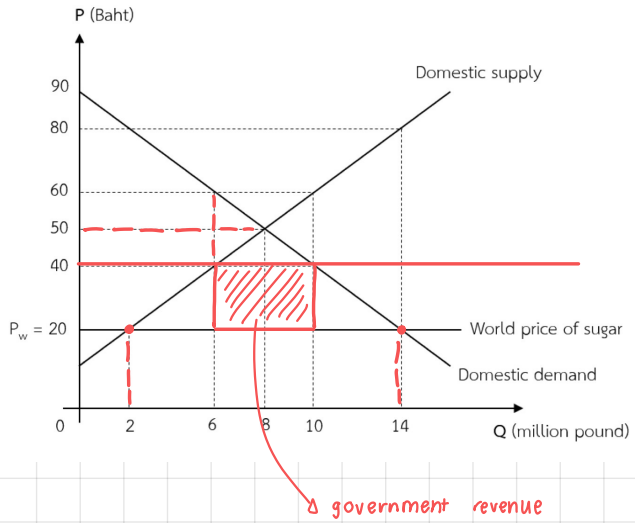
when price after tax increased to 40 Baht, domestic supply increases from 2 million pound to 6 million pound.

(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 tax imposed, consumer surplus is coloured in yellow. After tax imposed, price increase from 20 ฿ to 40 ฿, the consumer surplus is in Blue. Domestic consumers are worse off because consumers need to pay higher. consumer who have willingness to pay below 40 ฿ will not be able to afford to buy sugar.

(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.



Price after tax of sugar is now 40 Baht where domestic can supply for 6 million pounds. However, the domestic demand of price 40 Baht is 10 million pound. Thus it needs to import 4 million pounds to satisfy domestic demand. The government revenue is 80 million baht.

4 million x 20 = 80 million baht

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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.

(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.

a) POINT elasticity

$$\varepsilon_d = \frac{P}{Q} \cdot \frac{\Delta Q}{\Delta P}$$

$\Delta Q = 3000 - 5000 = -2000$

$\Delta P = 25 - 20 = 5$

$$\varepsilon_d = \frac{\text{NEW price}}{3000} \cdot \frac{(-2000)}{5} = -\frac{10}{3} = -3.33$$

b) The change is price causes the quantity demand to change a lot. In this case we can assume that it has an elastic demand. When it is elastic, price increase will cause total revenue to decrease because people will buy less. There may be other substitute. Total sale revenue can also be defined by price x quantity demand If price increase a little but quantity demand decrease alot, it may result in a decrease in total sale revenue.

(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.

$$\varepsilon_c = \frac{\%\text{ change of quantity demand A}}{\%\text{ change of price of B}}$$

super drink = A sweetened green tea = B

$$= \frac{P^B}{Q^A} \cdot \frac{\Delta Q A}{\Delta P B} = \frac{20}{2500} \cdot \frac{(3000 - 2500)}{(25 - 20)} = 0.8$$

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

They are substitutes because when green tea price increase, demand decrease meaning people buy it less. While demand for super drink increases which could mean people choose to buy super drink over green tea. If they are complements, when demand for one increase, demand for the other also increases.

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.

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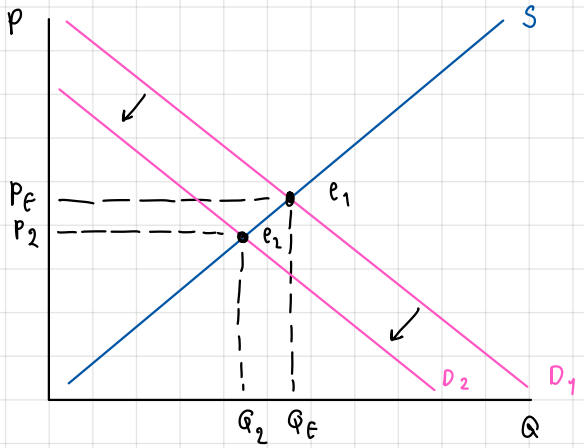
(a) Supposed that a Health Foundation which is an independent organization decides to put up a campaign showing how bad can alcoholic beverages affect health condition in long-term through several big billboards, what do you think will happen to this market, equilibrium price and quantity. Support your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

It affects the market to a certain extent.
First of all, alcoholic beverages are classified as inelastic. That is because alcoholic beverages are addictive therefore even though there is a change in price, people who are addicted to it will still buy it.

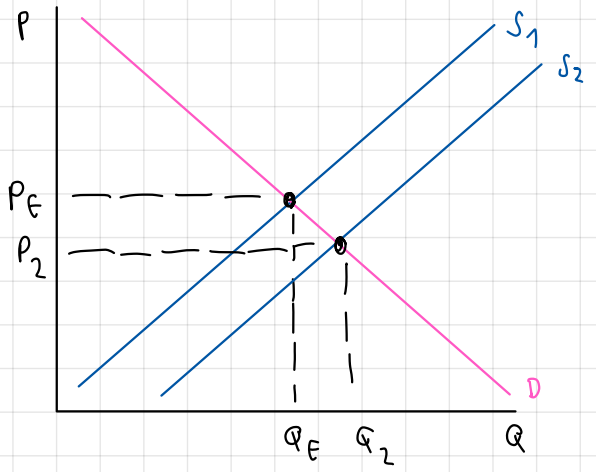
Some people may drink less or stop drinking the beverage. This may cause the the demand for alcoholic beverage to decrease.



This causes the demand to shift to the left.
In order to remain equilibrium which is when demand equals supply, we need to decrease the price.

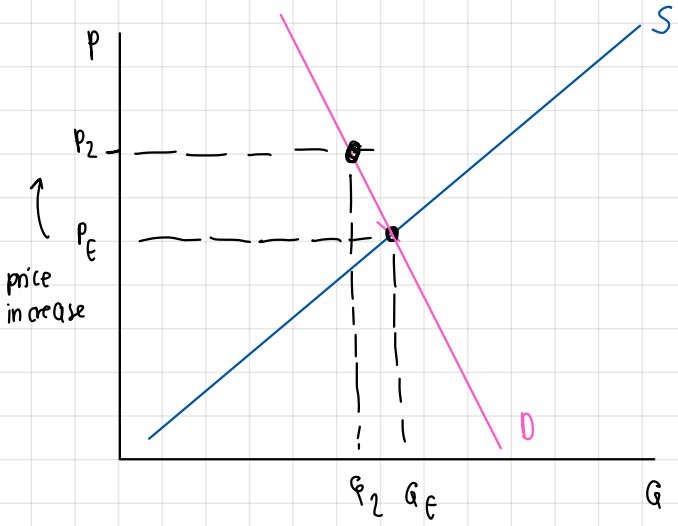
(b) If the government decides to collect unit tax on sellers, show that how would this affects equilibrium price and quantity. Provide a clear explanation with support of a diagram.

When government starts to collect tax on sellers, cost of production increases. This means that the seller can supply less. This causes supply to shift to the right.
Price will increase to cover the cost of production and it then meets equilibrium.



(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.

Alcoholic Drinkers are addicted to alcoholic beverages so even though the price increases, they will still buy it. Therefore price of elasticity is inelastic.



Occasional drinkers are not addicted to alcoholic beverage so it is not necessary for them. When price increase, quantity demand decrease alot meaning that price elasticity is elastic.