

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.

(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?

Opportunity cost of each cupcake

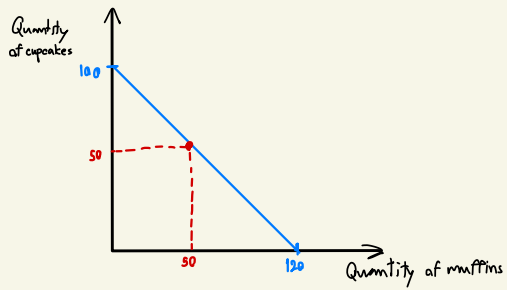
$$= (0, 100), (120, 0)$$

$$+ 100 \quad -120$$

$$+ 5 \quad -6$$

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

Opportunity cost of each cupcake are loss 1.2 muffins.



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

Opportunity cost to make 1 cupcake are loss 1.2 muffins
 If baker want to make 60 cupcake so muffin
 She can do only 60 cupcake & 90 muffin
 \therefore It impossible to do 60 cupcake and 50 muffin

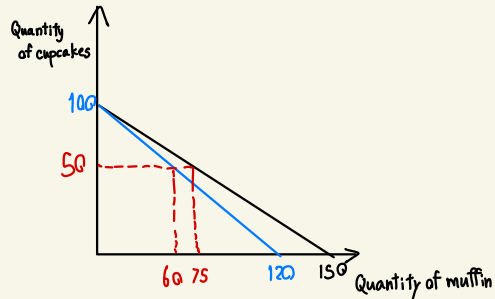
+10	-12
Cupcakes	muffins
50	60
↓	↓
60	48

(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.

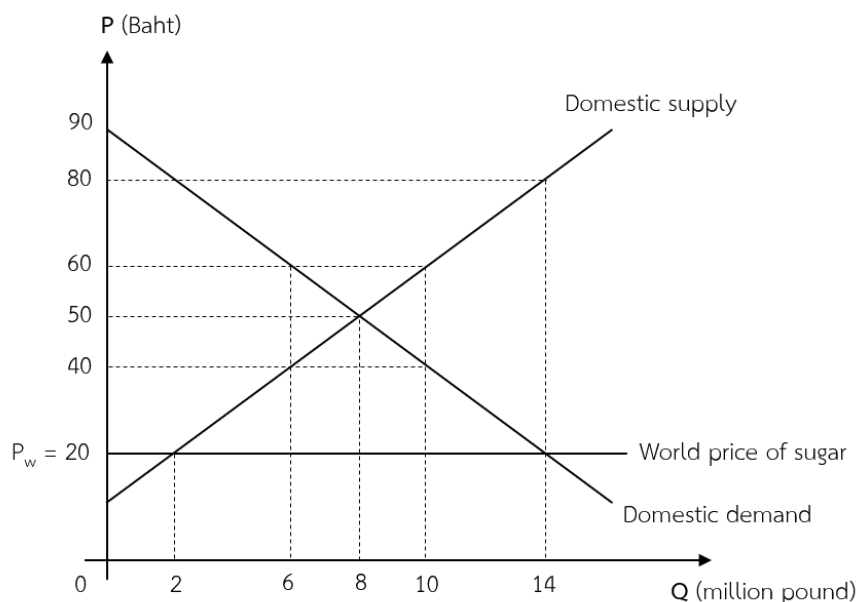
Initial opportunity cost $-\frac{6}{5} = -1.2$

final opportunity cost $-\frac{120}{100} = -1.2$

Opportunity cost of 1 cupcake will decrease by 0.3



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.



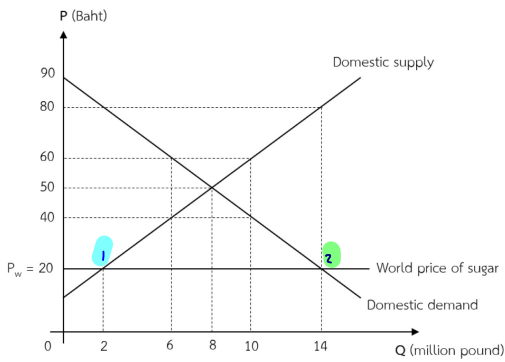
(a) Supposed that Thailand takes world price, how many pounds of sugar is imported at the world price level?

(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.



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

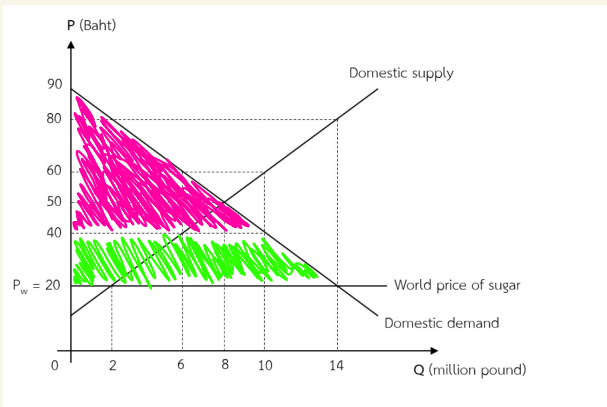
- ∴ Thailand should import 12 million pounds of sugar because
- domestic supply of sugar is 2 million pounds at point 1.
 - domestic demand " is 14 million pounds at point 2.

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?

Price of the sugar after tax policy is 40 baht per pound
 The higher price will make supply more quantity of sugar
 from 2 million pounds 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.

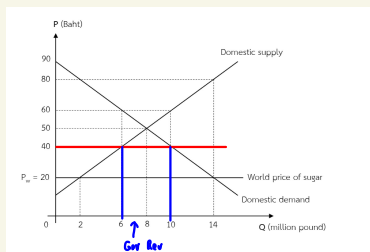
Before tax imposed the consumer surplus are ■ + ■

After tax imposed the consumer surplus are ■

The consumer are worse off because before the tax consumer purchase sugar at 20 baht per pound after the tax consumer need to purchase 40 baht per pound so purchasing power are decrease because higher price.

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.



Price of sugar after import tax is 40 baht quantity of domestic supply is 6 million pound but the quantity of domestic demand at the same price is 10 million pound so the rest of them 4 million are imported to abroad and the import tax are 20 baht per pound the government revenue 4 million \times 20 = 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.

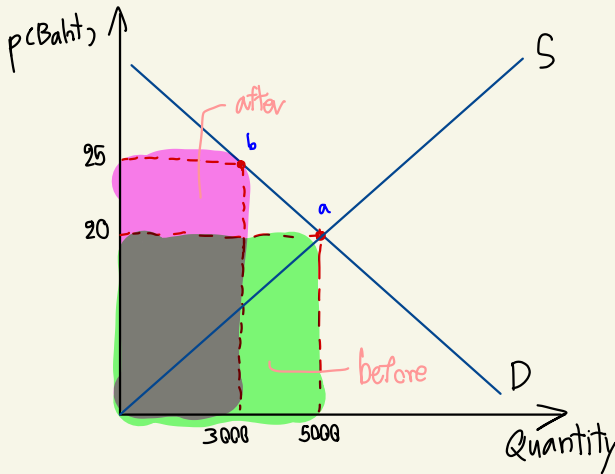
(a) Use POINT elasticity to calculate the price elasticity of demand at the NEW price.

(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.

$$\begin{aligned} \sum dcb) \cdot \frac{Q_2 - Q_1}{P_2 - P_1} \cdot \frac{P}{Q} \\ \cdot \frac{3000 - 5000}{25 - 20} \cdot \frac{25}{3000} \\ \cdot \frac{-2000}{5} \cdot \frac{25}{3000} \\ \cdot -\frac{10}{3} \cdot -3.3333 \# \end{aligned}$$

(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 sale revenue will decrease because price increase by tax and the price of elasticity demand is -3.333

If price increase 1%, demand decrease by 3.333

So the sale revenue will decrease when price increase.

(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.

$$\epsilon_c = \frac{3000 - 2500}{25 - 20} \cdot \frac{20}{2500} = 0.8$$

\therefore Cross price elasticity of demand for "Super drink" with respect to the price of sweetened green tea is 0.8

ed.

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

The sweetened green tea and super drink are substitutes goods because when price of sweetened green tea rise up from 20 to 25 the demand of super drink increase from 2500 to 3000 bottle per month.

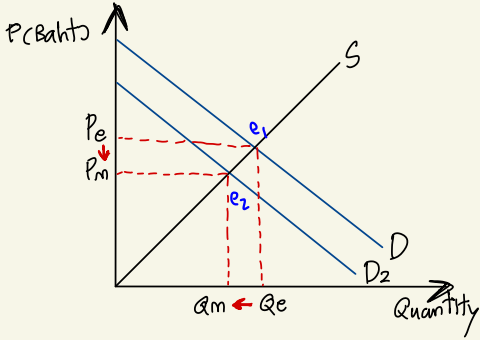
4. Consider a liquor market in a country, answer the following questions. If you have any specific assumption, please state them clearly within each item.

(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.

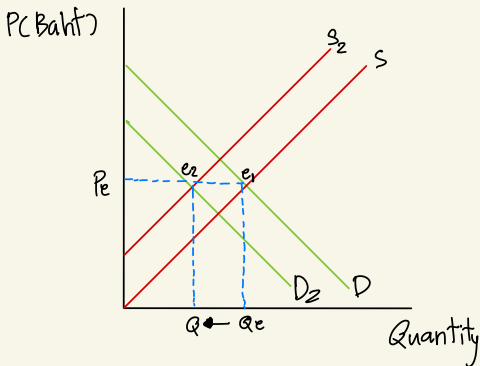
(c) There are two groups of liquor consumers: the alcoholic and the occasional drinkers. Does the unit tax affect both groups the same or differently. Provide a clear explanation with support of diagrams.

(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.



In my opinion the campaign make alcoholic beverages demand decrease
 So the supply quantity will decrease and make new equilibrium price from e_1 to e_2

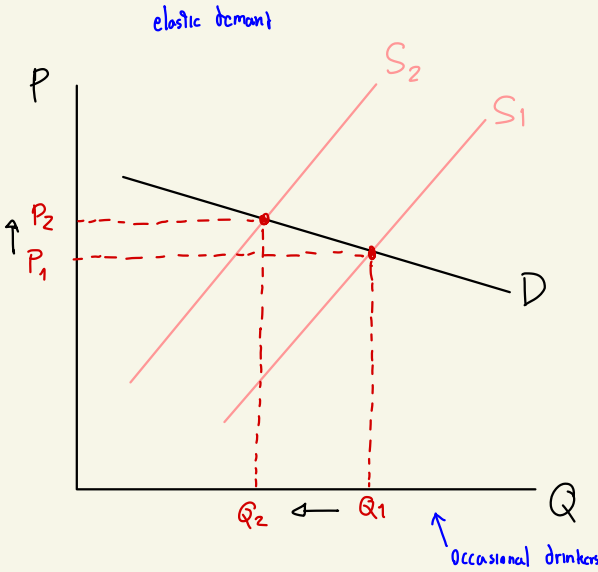
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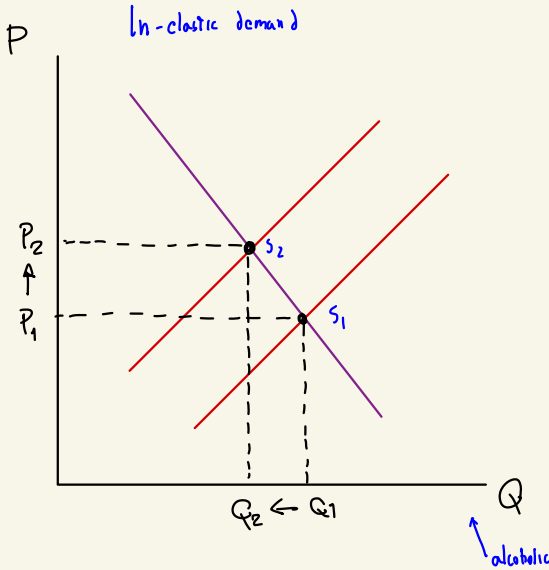
When the gov. collect tax from alcohol seller
 so supply will shift left the demand will shift right
 and the price of beverages are still the same level.

(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.

The unit tax affect to both group different level because alcoholic buy beverage more than occasional drinker so the unit tax effect alcoholic more than the others



The demand of occasional drinker is elastic demand because alcoholic beverage is not necessary goods so the price is increase but the quantity decrease



The demand of alcoholic drinkers is inelastic demand because they addict alcohol so alcoholic beverages is necessary goods so when price increase the quantity only little decrease