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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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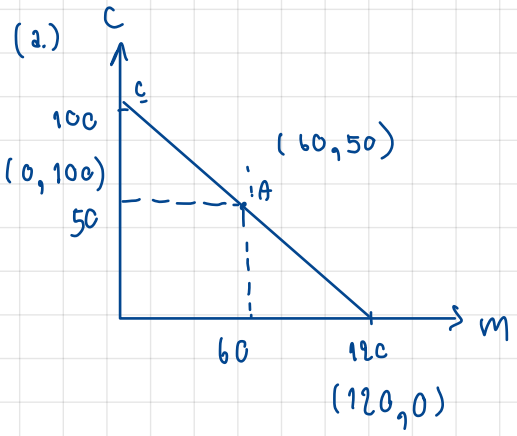
(a.)



opp of each cupcake

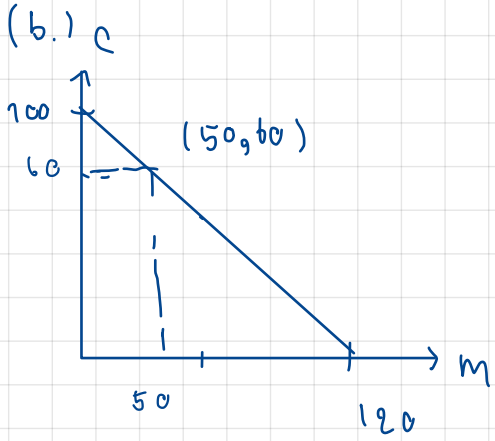
$A \to C$

$(60, 50) \to (0, 100)$

more cupcake	less muffin
+50	−60
+1	−1.2
−50x	−60
x	$= \frac{60}{50}$
	$= 1.2$

∴ opp of each cupcake = 1.2

(b.)



1 cupcake less 1.2 muffin

if we want 60 cupcake

we have to loss 72 muffin

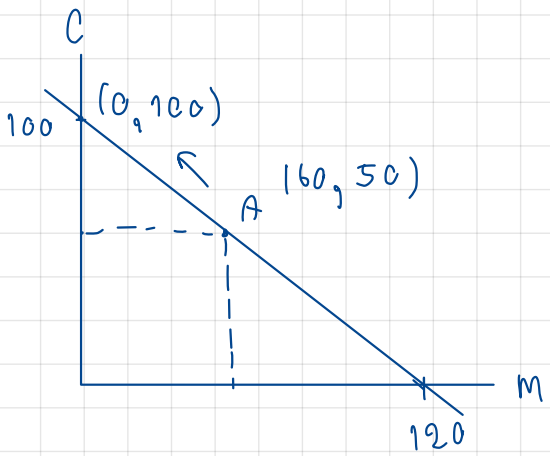
so muffin will have 120 − 72

= 48

so it isn't enough to bake muffin

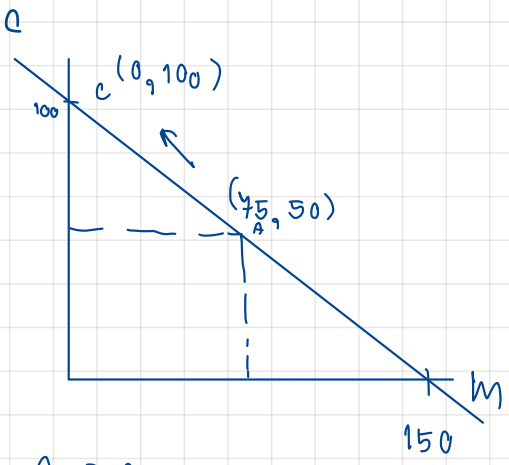
which can baked muffin max at 120

(X.)



old

opp. cost = 1.2



A → C

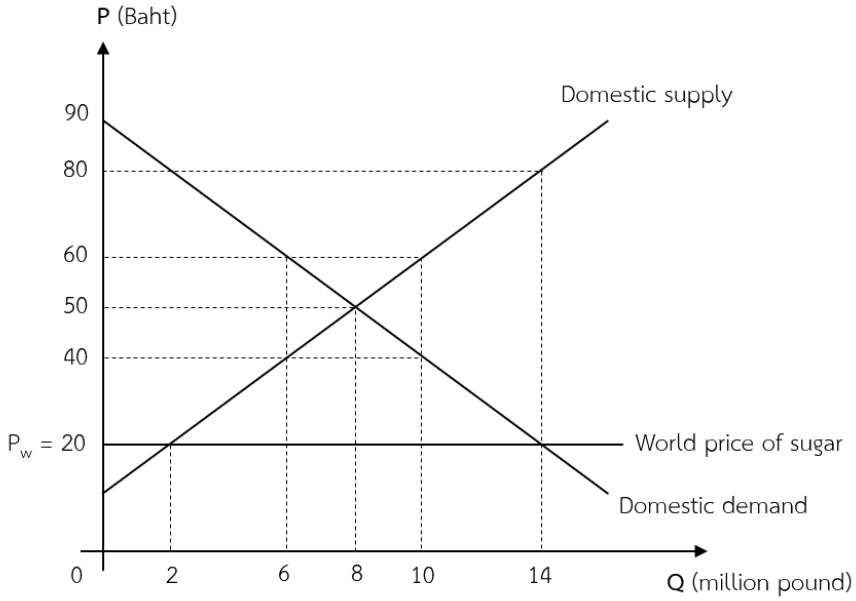
(75, 50) → (0, 100) less muffin more cupcake

+50	-75	50x 75
+1	-x	x = 1.5

∴ Opp cost = 1.5

because the increasing of quality of cupcake from 120 to 150 At the old one, opportunity cost was 1.2 And At the new, opportunity cost is 1.5 which means that opportunity cost is increasing

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?

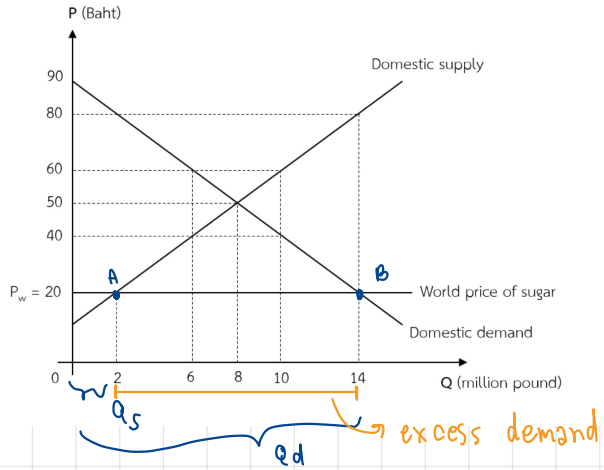
(b) If the government further decides to collect an import unit tax of 20 baht per pound and the price after tax becomes 40 baht per pound,

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

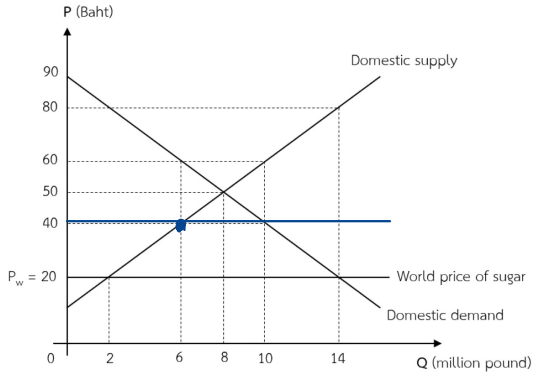
(d) After the import tax is imposed, compute the change in consumer surplus. Also highlight the change in consumer surplus in the provided graph. Are the domestic consumers better off or worse off? Clearly explain your answer.

(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?

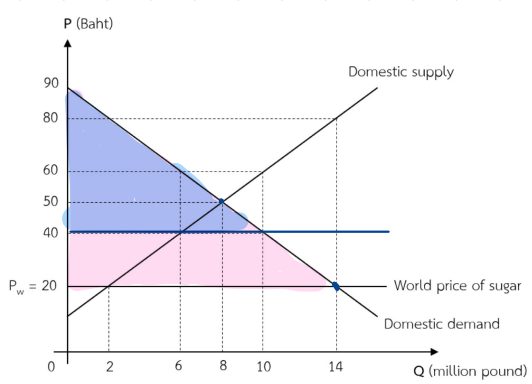


At point A, supplier want to supply sugar at 2 million pound while on point B cousumer want to demand at 14 million pound which created excess demand. So sugar that need to import is 12 million pound.



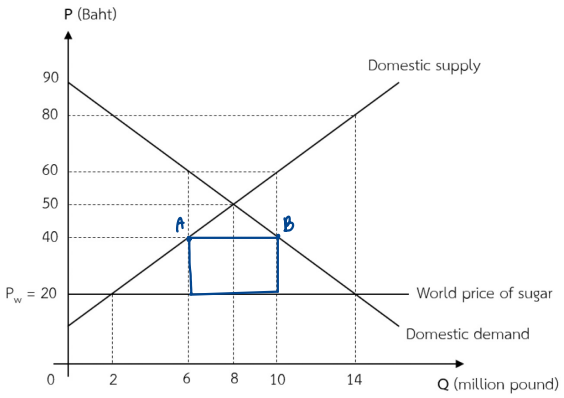
b, c) After price become 40 bath per pound. According from the graph, The quality supply increase from 2 million pound to 6 million pound

d.)



In the pink area, it is before the increse in tax. After increase in tax, it become in the blue area. We can say that domestic cousumers are worse off after the tax is imposed because they have to pay more for purchasing sugar from abroad.

e.)



$(P_2 - P_T) \times Q_2 = 20 \times 4 =$ 80 millions

the import tax causes increaseing in price. The new interception of supply is A and new interception of demand is B which represent excess demand is 4 millions. consumer pay 20 bath per unit tax and they import 4 millions pound so they have to pay for government 80 millions

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.

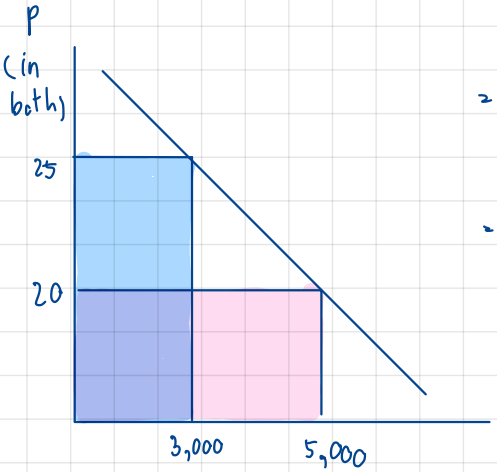
(a) Use POINT elasticity to calculate the price elasticity of demand at the NEW price.

(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.) $\dfrac{Q_2 - Q_1 / Q_1}{P_2 - P_1 / P_1} = \dfrac{P_1}{Q_1} \cdot \dfrac{Q_2 - Q_1}{P_2 - P_1}$



$= \dfrac{20}{5000} \cdot \left(\dfrac{3000 - 5000}{25 - 20}\right)$

$= \dfrac{20}{5000} \left(\dfrac{-2000}{5}\right)$

$= -1.6$ *

∴ The price elasticity of demand at new price is -1.6

b.) the total sale revenue is decrease because sweetend green tea can be subsitute by other.

c. $\dfrac{Q_2 - Q_1 / Q_1}{P_2 - P_1 / P_1} = \dfrac{P_1}{Q_1} \cdot \dfrac{Q_2 - Q_1}{P_2 - P_1}$

$= \dfrac{20}{2500} \cdot \dfrac{3000 - 2500}{25 - 20}$

$= \dfrac{20}{2500} \left(\dfrac{500}{5}\right)$

$= \dfrac{20}{25} = \dfrac{4}{5}$

$= 0.8$

∴ Cross-price elasticity of demand for super drink with respect to the price of sweetened green tea = 0.8

d.) Between sweetened green tea and super drink are substitutes. Because it state that price of green tea is increase lead to the increasing in the quantity demand of super Drink. It can be said that consumer decide to select super drink when green tea price is increase.

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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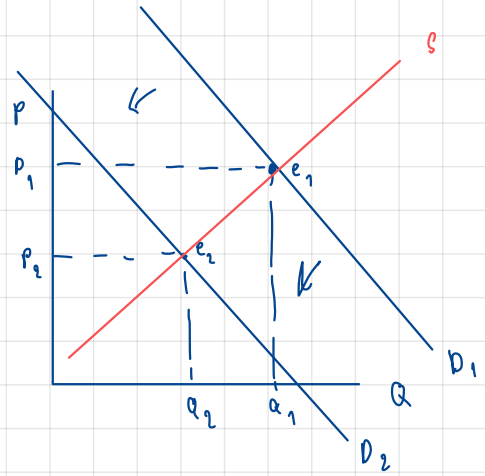
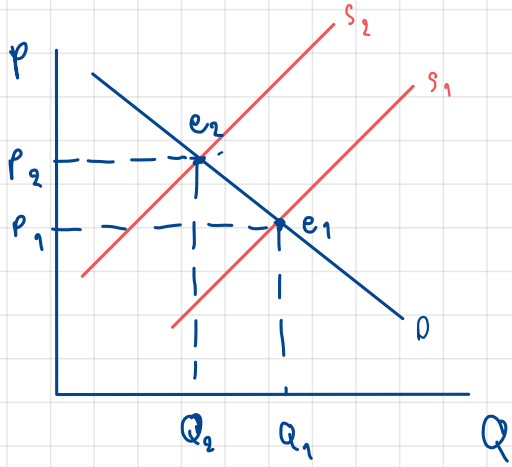
(a.)



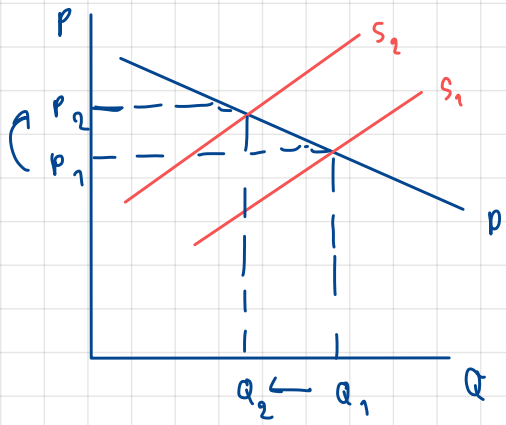
For me, I think it will shift downward because the effect was from a campaign showing how bad can alcoholic beverages affect health condition in long-run that may make consumer buy less alcohol. And new equilibrium at e_2

(b.)



Government collect tax lead to increasing in price so the supply decrease which supply shifts upward And increasing in price lower demand so the quantity demand is decrease. And the new equilibrium is e_2

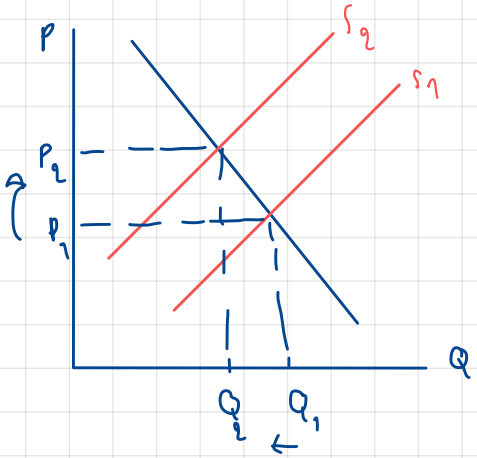
(c.)



The unit tax affect differently

Elastic Demand

Demand of occasional is elastic. When tax increase, they can buy other product instead And when price increase, it lower demand in buying alcohol



Inelastic demand

Demand of Alcoholic drinkers is inelastic because they addicted to the alcoho and can't buy any product instead of the alcohol. When the tax increase, they still feel fine to buy alcohol. So there is little effect on demand