



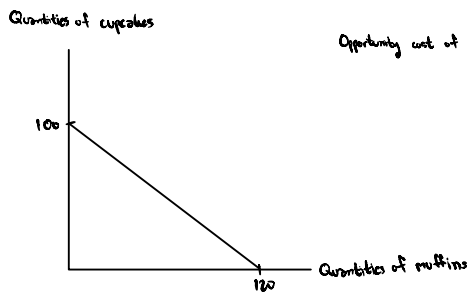
1. Suppose that a baker can produce muffins and cupcakes. If she uses all her resources on producing muffins, she can bake 120 muffins. If she produces only cupcakes, she can bake 100 cupcakes.

(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)



$$\begin{aligned}\text{Opportunity cost of each cupcake} &= \frac{120}{100} \text{ muffins} \\ &= 1.2 \text{ muffins}\end{aligned}$$

b)

$$y = mx + b$$

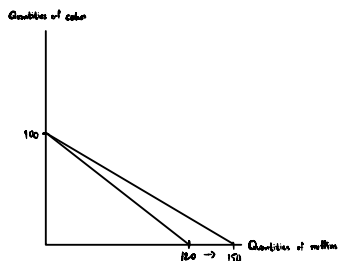
$$Q_{\text{cupcake}} = -\frac{5}{6} Q_{\text{muffin}} + 100$$

$$60 = -\frac{5}{6} Q_{\text{muffin}} + 100$$

$$Q_{\text{muffin}} = 40 \cdot \frac{6}{5} = 48 : 48 \text{ muffins - possible}$$

It's not possible to 60 cupcakes and 50 muffins.

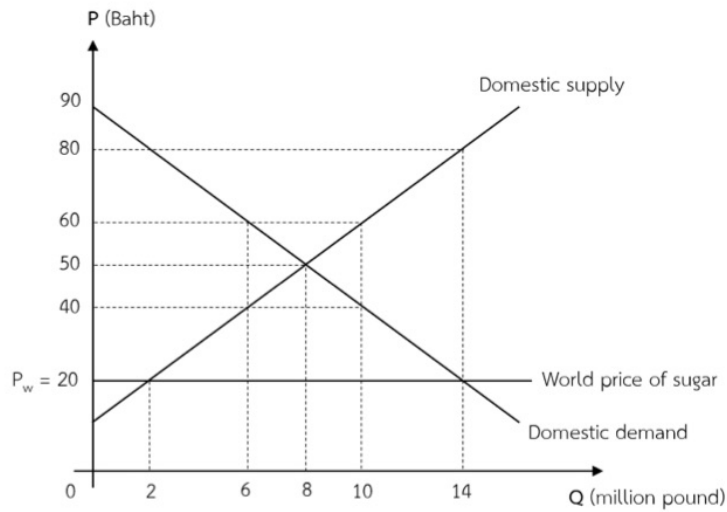
X)



$$\begin{aligned}\text{Opportunity cost of each cupcake} &= \frac{150}{100} \text{ muffins} \\ &= 1.5 \text{ muffins}\end{aligned}$$

The opportunity cost increases by $1.5 - 1.2 = 0.3$ unit.

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.

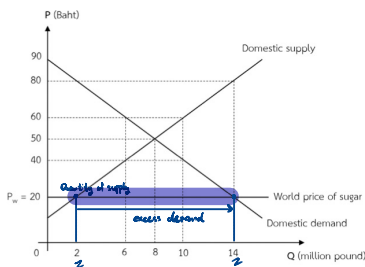


(a) Supposed that Thailand takes world price, how many pounds of sugar is imported at the world price level?

(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,

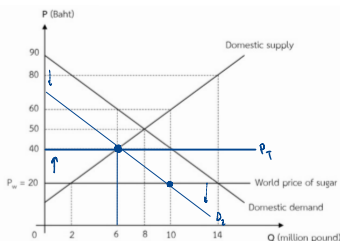
(c) How much of the sugar is domestically produced in Thailand after tax?

a)



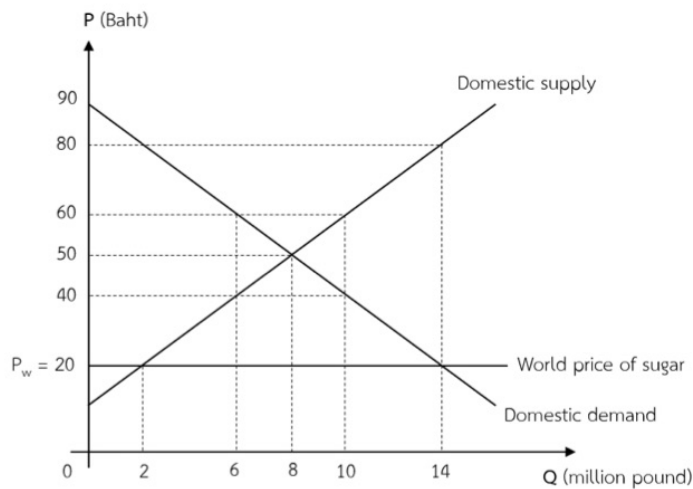
$$14 - 2 = 12 \text{ million pounds}$$

b+c)



$$6 \text{ million pounds}$$

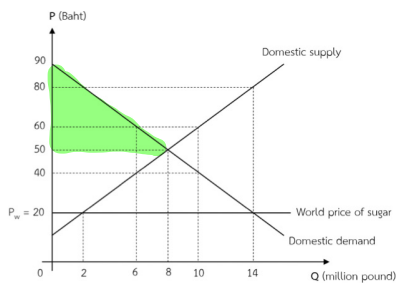
2. Supposed that sugar is **traded freely** in the world market, Thai people consume domestically produced sugar while the rest is imported. Given that world market price is 20 baht per pound and **the government decides to set domestic ceiling price equally to the world price**, below graph shows domestic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



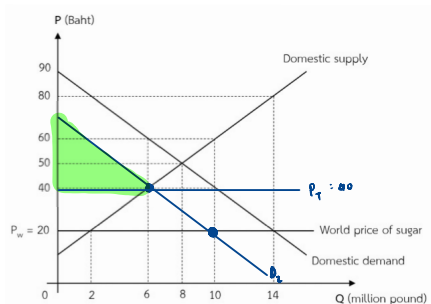
(d) After the import tax is imposed, compute the change in consumer surplus. Also highlight the change in consumer surplus in the provided graph. Are the domestic consumers better off or worse off? Clearly explain your answer.

(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.

d)



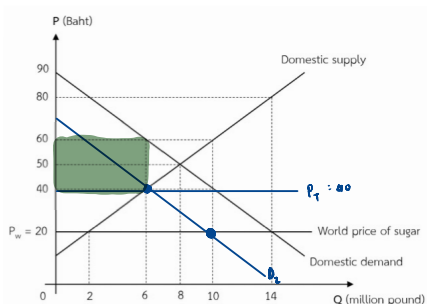
$$CS = \frac{1}{2} (8) (90 - 50) = 160 \text{ million } \text{฿}$$



$$CS_2 = \frac{1}{2} (6) (60 - 40) = 60 \text{ million } \text{฿}$$

Domestic consumers are worse off because consumers will buy products in higher price, so there's some of them quit the market, even, the consumer surplus is less.

e)



The government revenue is $(60 - 40) (6) = 120 \text{ million } \text{฿}$

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.

$$\begin{aligned} a) \quad E_d &= \frac{P}{Q} \cdot \frac{\Delta Q}{\Delta P} \\ &= \frac{25}{3000} \cdot \frac{5000 - 3000}{25 - 20} \\ &= -1.67 \end{aligned}$$

b) From price elasticity of demand concept is a percentage change in quantity demanded for a percentage of price increase. In this situation, the quantity demanded drops, but the total sale revenue increase.

$$\begin{aligned} c) \quad E_c &= \frac{P^b}{Q^a} \cdot \frac{\Delta Q^b}{\Delta P^a} ; \text{ Super drink, sweetened green tea : 25 baht per bottle} \\ &= \frac{25}{3000} \cdot \frac{5000 - 2500}{25 - 20} = \frac{25 \cdot 2500}{3000 \cdot 5} \\ &= 0.42 \end{aligned}$$

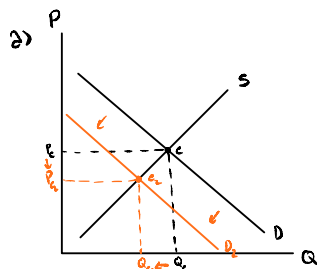
d) Sweetened green tea and Super drink are substitutes because when the price of sweetened green tea increases, the quantity demanded of super drink increases.

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.**

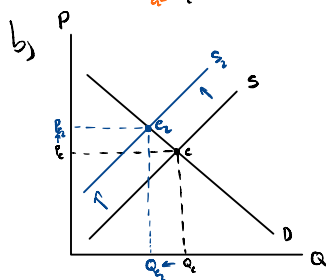
(a) Supposed that a Health Foundation which is an independent organization decides to put up a campaign **showing how bad** can alcoholic beverages affect health condition in long-term through several big billboards, what do you think will **happen to this market, equilibrium price and quantity**. Support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

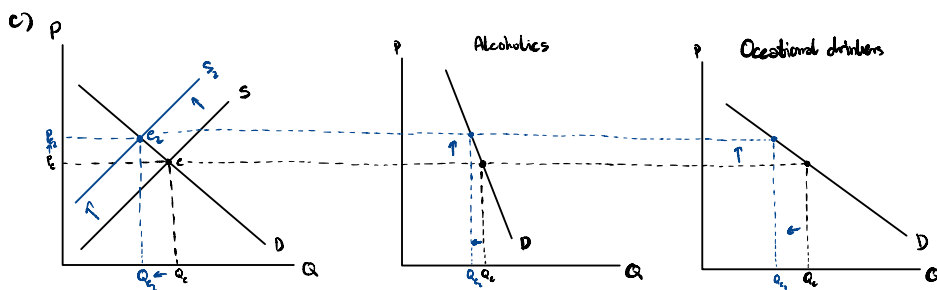
(c) There are two groups of liquor consumers: the **alcoholic and the occasional drinkers**. Does the **unit tax** affect both groups the **same or differently**. Provide a clear explanation with support of diagrams.



Because many realize that alcohol drinks have bad effect to health in long term, demand curve shifts left follow the less willingness to consume. The equilibrium price and quantity will decrease.



Because of collecting unit tax on sellers, the cost of production is higher, so the sellers produce less, the quantity decreases. The supply curve shifts left makes the equilibrium price increases.



From the second and third diagram, they indicate that the unit tax affects both groups in the same ways; the decreasing in quantity, but the quantity decreases in different range.

The alcoholic group, inelastic demand, need alcohol beverages because they're necessary goods. No matter the price change in big or small range, the changing in the quantity is small. On the other hand, the occasional drinker group, elastic demand, drink in specific situation. If alcohol beverage price is high, they will buy another drink instead.