

Exercise 1

1. You are considering the number of hamburgers that you plan to order. Based on the following table, complete the table and answer the following questions.
 - a. How many units of hamburgers should you order? Why?
 - b. Suppose you decide to order 2 hamburgers. Is this underallocation or overallocation? Explain. How much is your deadweight loss?
 - c. Suppose you decide to order 5 hamburgers. Is this underallocation or overallocation? Explain. How much is your deadweight loss?

Quantity	Total Benefit	Marginal Benefit	Total Cost	Marginal Cost	Total Net Benefit
1 st		80		20	
2 nd		60		20	
3 rd		40		20	
4 th		20		20	
5 th		0		20	

2. With diagrams, explain the differences between tariff and quota. Also, explain the impact on domestic stakeholders (consumers, producers, and government), i.e., who is better off and who is worse off? Why?
3. Consider an exporting country. Analyze welfare effect on all stakeholders when its government impose "Export Tax", i.e., per-unit tax imposed on the exported good. Draw a diagram(s) and provide complete analysis on who gain(s) and who lose(s).
4. A "small", open economy is engaging in international trade. Its domestic demand curve is given by $P = 100 - Q$ and its domestic supply curve is given by $P = Q$. The world price of the good is 20\$. Answer the following questions.
 - a. What does it mean for a country to be "small"? What implication of being "small" has on the world supply curve?
 - b. Is this economy either an exporting or important country? Why? How many units of the goods is the country is currently importing or exporting?
 - c. Now suppose the government decides to intervene. If the country is importing, the government will impose import tariff of 10\$ per unit. If the country is exporting, the government will impose export subsidy of 10\$ per unit. Calculate
 - i. Domestic consumer and producer surplus after the intervention
 - ii. Either subsidy cost or tariff revenue
 - iii. Deadweight loss from the intervention.

1. You are considering the number of hamburgers that you plan to order. Based on the following table, complete the table and answer the following questions.

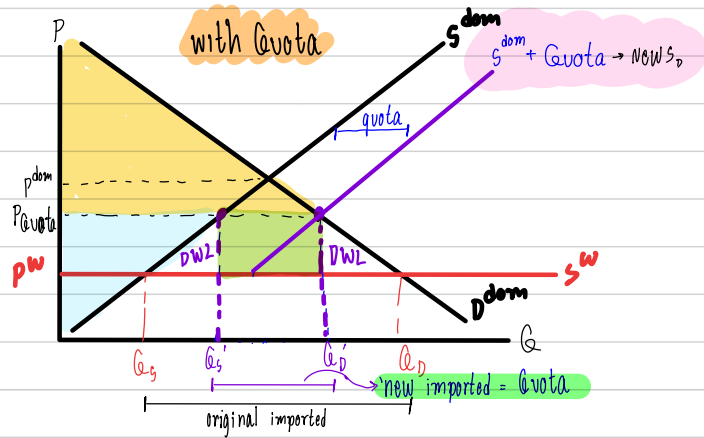
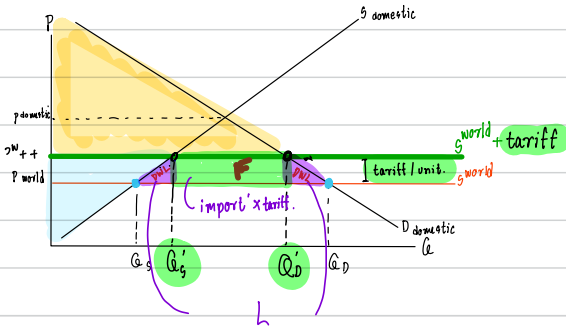
- How many units of hamburgers should you order? Why?
- Suppose you decide to order 2 hamburgers. Is this underallocation or overallocation? Explain. How much is your deadweight loss?
- Suppose you decide to order 5 hamburgers. Is this underallocation or overallocation? Explain. How much is your deadweight loss?

Quantity	Total Benefit	Marginal Benefit	Total Cost	Marginal Cost	Total Net Benefit
1 st	80	80	20	20	60
2 nd	140	60	40	20	100
3 rd	180	40	60	20	120
4 th	200	20	80	20	120
5 th	200	0	100	20	100

- 4 units of Hamburgers should be ordered because it is the quantity that the consumer get maximum benefit : $MB=MC$
- underallocation because consumer consume at when $MC < MB$, which they should continue consume, and the DWL is 2 units of burger.
- Overallocation because at fifth unit of burger the $MB < MC$, which means you are cost more than you get. The DWL is 1 unit of Hamburgers.

2. With diagrams, explain the differences between tariff and quota. Also, explain the impact on domestic stakeholders (consumers, producers, and government), i.e., who is better off and who is worse off? Why?

With tariff.



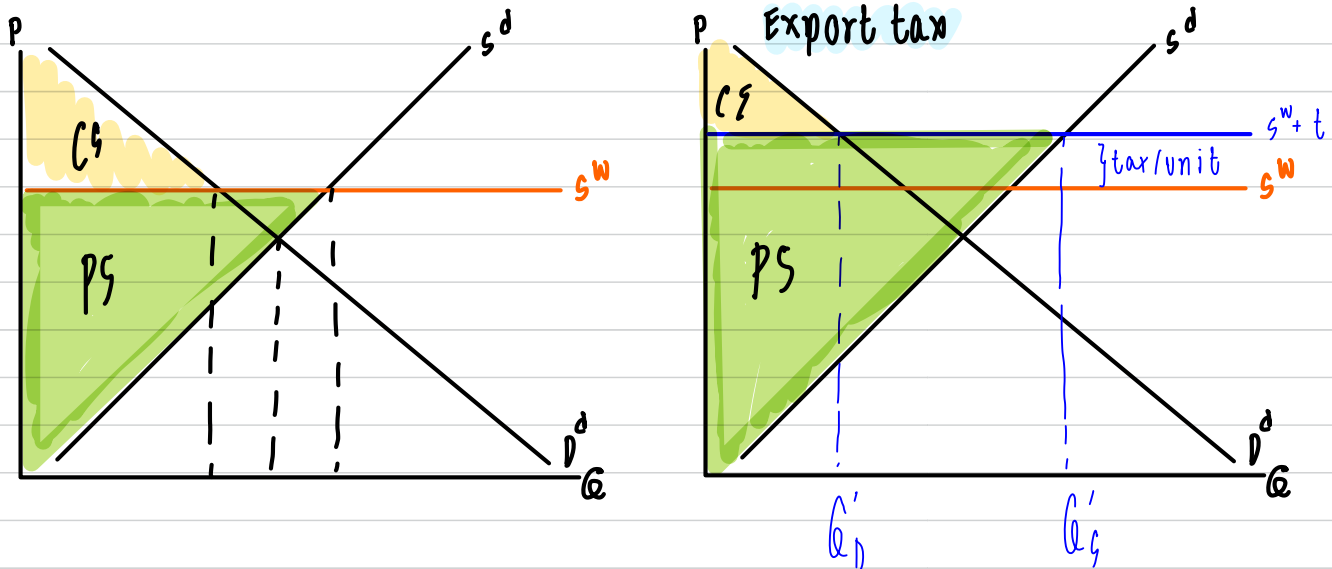
∴ tariff VS quota

↳ tariff increase the Price, but Quota limit the amount of import

- ∴ Consumer is worse off due to higher Price → buy less → lower Consumer surplus
- ∴ Producer is better off due to higher price → sell more → larger producer surplus

worse off? why?

3. Consider an exporting country. Analyze welfare effect on all stakeholders when its government impose "Export Tax", i.e., per-unit tax imposed on the exported good. Draw a diagram(s) and provide complete analysis on who gain(s) and who lose(s).



as Price is higher, producer willing to sell more
But there will be less consume. in consumer.

4. A "small", open economy is engaging in international trade. Its domestic demand curve is given by $P = 100 - Q$ and its domestic supply curve is given by $P = Q$. The world price of the good is 20\$.

Answer the following questions.

Domestic

$$D: P = 100 - Q$$

$$S: P = Q$$

$$P_w = 20 \$$$

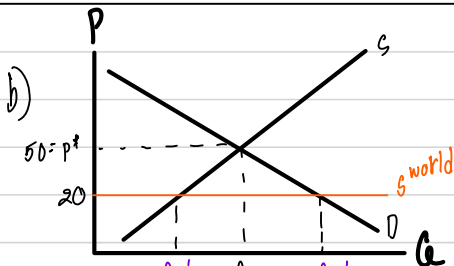
- What does it mean for a country to be "small"? What implication of being "small" has on the world supply curve?
- Is this economy either an exporting or importing country? Why? How many units of the goods is the country is currently importing or exporting?
- Now suppose the government decides to intervene. If the country is importing, the government will impose import tariff of 10\$ per unit. If the country is exporting, the government will impose export subsidy of 10\$ per unit. Calculate
 - Domestic consumer and producer surplus after the intervention
 - Either subsidy cost or tariff revenue
 - Deadweight loss from the intervention.

a) Small Domestic Economy / country

→ whatever it does, does not affect the world price
(ie how much it buys or sells does not affect the world price)

o o

the world supply curve is horizontal.
 since the world can supply the good at P_{world} as much as the small country want to buy.



$$P = 100 - Q \quad \text{--- (1)}$$

$$P = Q \quad \text{--- (2)}$$

$$Q^* = 100 - Q^* \quad | \quad P^* = 50$$

$$Q^* = 50$$

: this is importing country

because P_w is below equilibrium P .

sol Q_D' ; $20 = 100 - Q$

$$Q_D' = 80$$

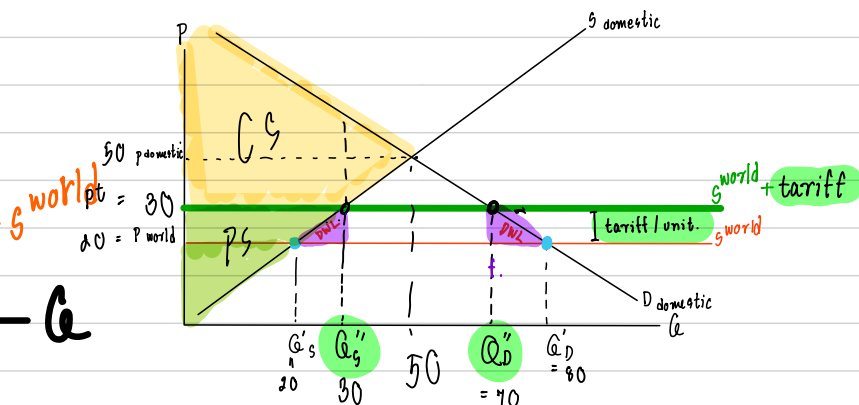
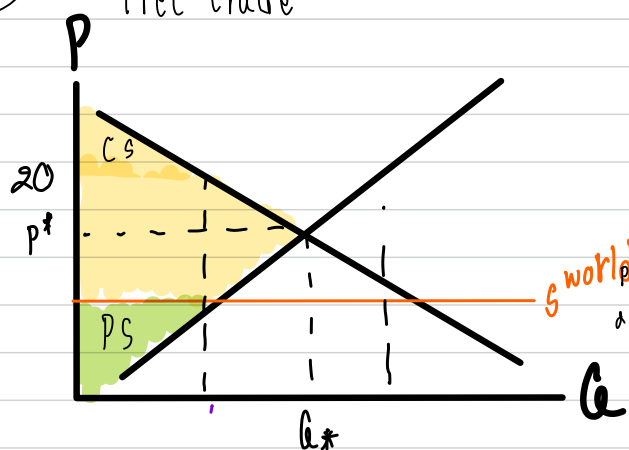
$$Q_S' : 20 = Q_S'$$

$$\therefore Q_D' - Q_S' = \text{import}$$

$$= 80 - 20 = 60$$

(C)

Free trade



- i. Domestic consumer and producer surplus after the intervention
- ii. Either subsidy cost or tariff revenue
- iii. Deadweight loss from the intervention.

$$D: P = 100 - Q$$

$$S: P = Q$$

$$P_w = 20$$

sol: to find Q_D'' ; $P = 100 - Q$ - (D) | $Q_S' = 20$

$$30 = 100 - Q$$

$$Q_D'' = 70$$

$$Q_S''; P = Q$$
 - (S) | $Q_D' = 80$

$$Q_S'' = 30$$

(i) $PS = \frac{1}{2} (20)(30) = 300$

CS ; $P = 100 - Q$
 $P = 100 \rightarrow$ intercept (D)

①: $(100 - 50) \times 50 \times \frac{1}{2} = 1250$

②: $(20) \times (50) - \frac{1}{2} (20)(20) \left(\frac{1}{2}\right) = 800$

① + ② = $CS = 2050$

(ii) Gov tariff revenue

; (new import)(tariff unit)
 ; $(80 - 30)(10) = 500$

(iii) $DWL = \frac{1}{2} (10 \times 10) = 50$