

### 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?

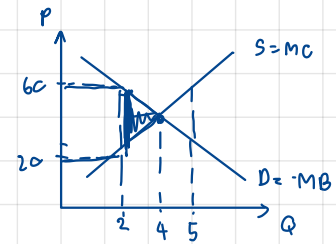
Quantity	Total Benefit	Marginal Benefit	Total Cost	Marginal Cost	Total Net Benefit
1 <sup>st</sup>		80		20	
2 <sup>nd</sup>		60		20	
3 <sup>rd</sup>		40		20	
4 <sup>th</sup>		20		20	
5 <sup>th</sup>		0		20	

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 <sup>st</sup>	80	80	20	20	60
2 <sup>nd</sup>	140	60	40	20	100
3 <sup>rd</sup>	180	40	60	20	120
4 <sup>th</sup>	200	20	80	20	120
5 <sup>th</sup>	200	0	100	20	100

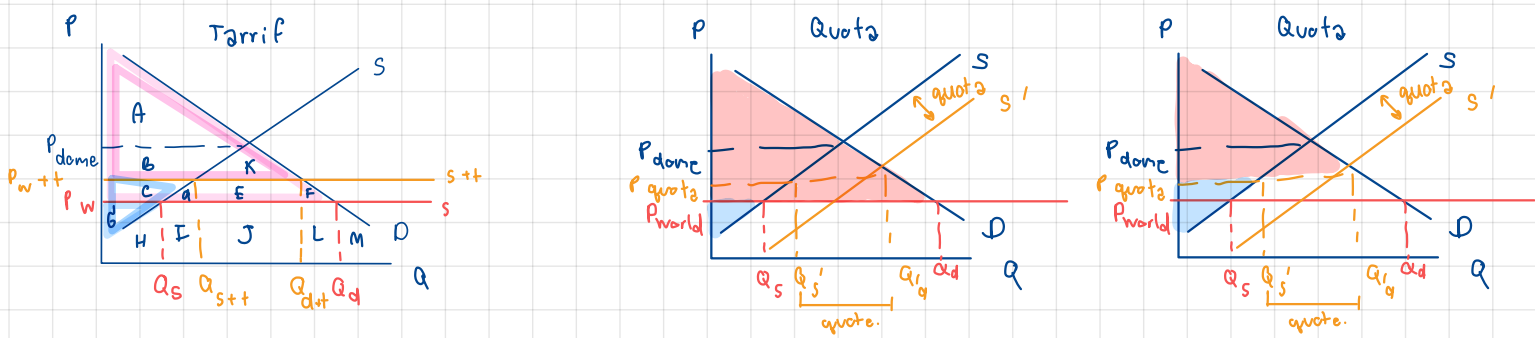


a. should by 4 Hamburgers due to at the 4<sup>th</sup> (one by one product )  
the marginal benefit equal to marginal cost. It is reach the  
maximize benefit at (MB = MC)

b. It is underallocation due to  $MB > MC$  ( $60 > 20$ )  $DWL = 40 = \frac{1}{2} \times 2 \times 40$

c. It is overallocation due to  $MB < MC$  ( $0 < 20$ )  $DWL = 10 = \frac{1}{2} \times 1 \times 20$

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?



The difference between tariff and quota is equilibrium. Quota, the supply curve will shift to the right at the new equilibrium.

Before tariff, consumer surplus was covered area ABCDEFK at  $P_w, Q_d$ .

Producer surplus covered area G at  $P_w, Q_s$ . Government receives nothing.

With tariff, consumer surplus is smaller because the price is higher at  $P_w+t$ .

The consumer surplus covers area ABK at  $P_w+t, Q_d+t$  (consumer has less willingness to buy).

Producer surplus is larger because producers can sell more at a higher price so to gain more they produce more. Area E is where the government gets tariff revenue.

So with tariff, producers and government are better off while consumers are worse off because of the higher price of the product.

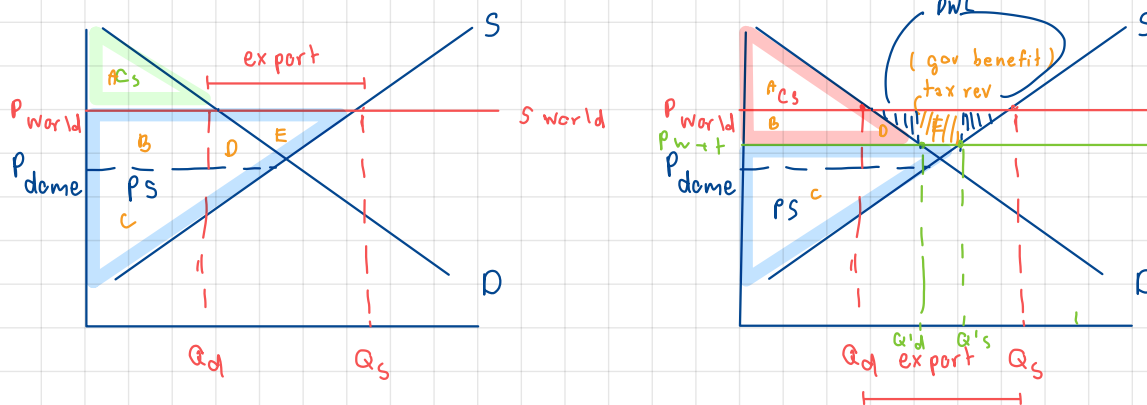
Quota, government limited the product for firms to import. Firms get limited imports so the price got higher.

Importing more goods, the supply curve shifts to the right at  $S'$ .

and adjust to the new equilibrium at  $P_{quota}, Q_d'$ . The price got higher.

Consumer consumes less product. And consumer surplus decreases as it is shown.

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).



	Before tax	AFTER tax	
CS	A	A+B+D	E is tax revenue.
PS	B+C+D+E	C	

Government impose tax on export. Producer export less and the stock increase.

People tend to sell in the country for reducing tax. The price of product decrease

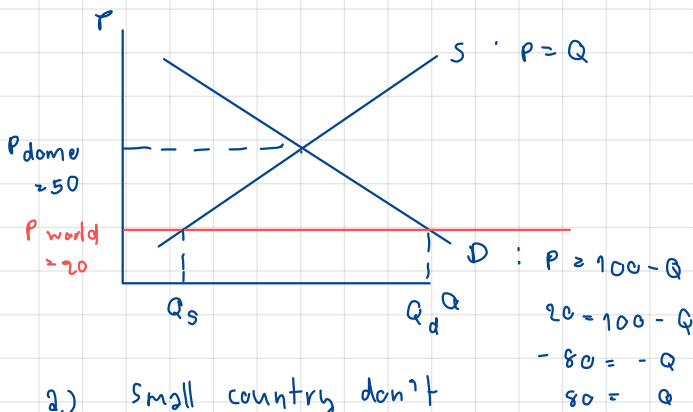
consumer buy products in a cheap price. Firms produce and sell less product.

Government gain tax revenue at E area.

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.

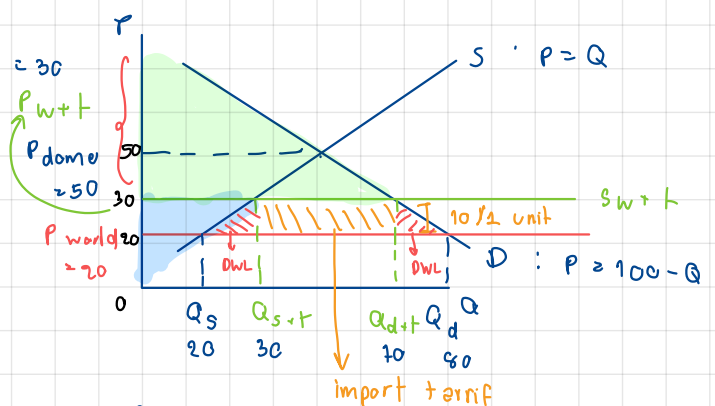
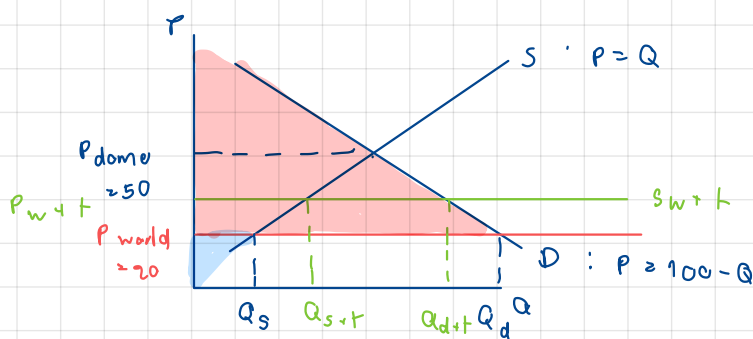
- What does it mean for a country to be "small"? What implication of being "small" has on the world supply curve?
- Is this economy either an exporting or important country? Why? How many units of the goods is the country is currently importing or exporting?
- Now suppose the government decides to intervene. 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 country don't affect world supply curve.

b.) importing country because domestic price is higher than world price. They import 80 units of goods.

c.)



$$\begin{aligned}
 \text{ci)} \quad \text{Domestic consumer surplus} &= \frac{1}{2} \times \frac{P_d \times Q_d}{50 \times 50} \\
 &= 1,250 \\
 &=
 \end{aligned}$$

$$\begin{aligned}
 \text{Producer surplus} &= \frac{1}{2} \times \frac{25}{50} \times 50 \\
 &= 1,250 \\
 &=
 \end{aligned}$$

$$\text{cii)} \quad \text{tariff rev} = 40 \times 10 = 400$$

$$\text{ciil)} \quad \left( \frac{1}{2} \times 10^2 \times 10 \right) \times 2 = 100$$