

Exercise 1

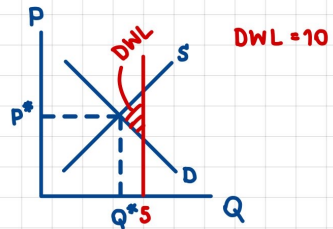
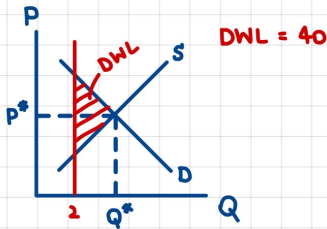
1. You are considering the number of hamburgers that you plan to order. Based on the following table, complete the table and answer the following questions.
- How many units of hamburgers should you order? Why?
 - Suppose you decide to order 2 hamburgers. Is this underallocation or overallocation? Explain.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

- 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?
- 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).
- 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.

Ans

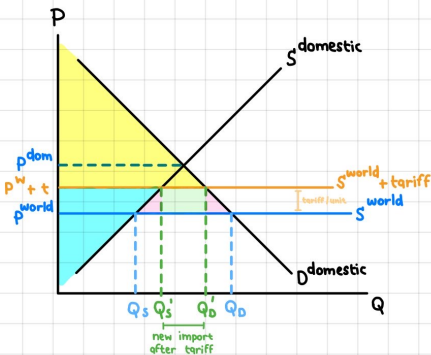
- ① a) 4 units of hamburgers because we should continue to buy as long as $MB \geq MC$.
 b) It's underallocation due to $MB > MC$.
 c) It's overallocation due to $MC > MB$



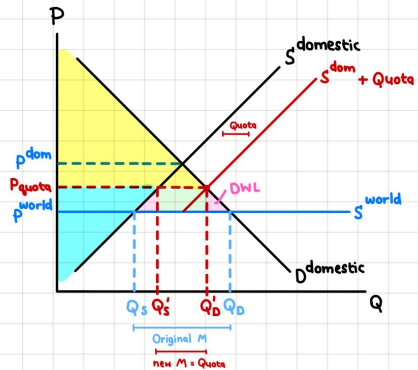
From 1b and 1c, consumer and producer should maximize profit at Q^* (4) to avoid the allocative inefficiency and death weight loss.

②

Tariff



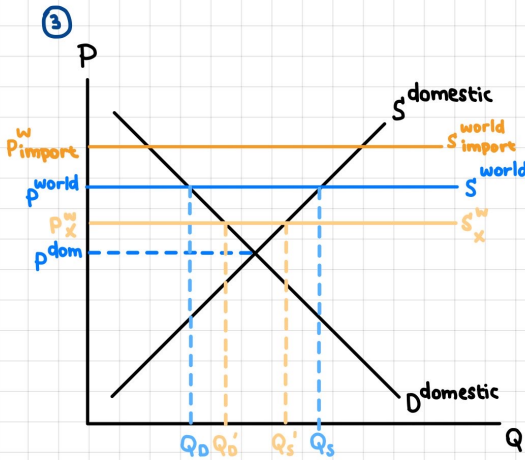
Quota



Tariff is when the government decided to collect import's tax which leads to increase the P^{world} , quantity supply will increase from Q_s to Q_s' and quantity demand will decrease from Q_D to Q_D' .

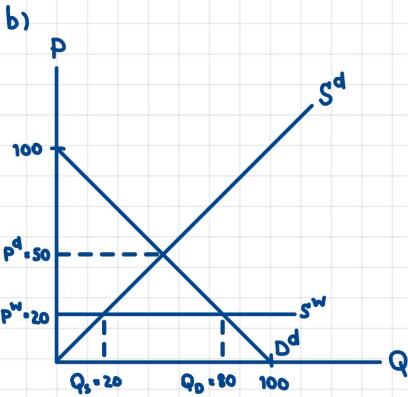
While quota is the limit amount of import products, resulting in S^{dom} will shift right to $S^{dom+quota}$. It caused P to grow from P^{world} to P^{quota} , Q_s will change to Q_s' and Q_D to Q_D' .

From both tariff and quota, producers will better off due to the increase in quantity supply; however, consumers are worse off because the price increased. Government is better off only in tariff because they will get benefit from tax.



When the government impose export tax, P^w_M will increase which make Q_D changed to Q'_D , resulting in decrease in export. The gov. will get benefit from tax, consumers will get product at the cheaper price while producers will cost more.

④ a) In the small economy, it won't effect the world ; hence, world supply curve is horizontal.



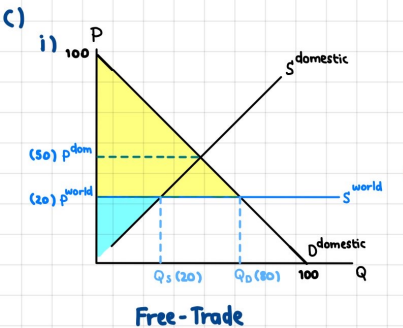
$$P^d: P = Q$$

$$P = 50$$

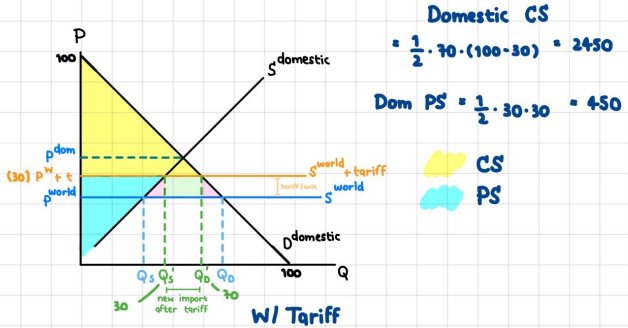
$$Q_s = 20$$

$$Q_D = 100 - 20 = 80$$

since $P^{dom} > P^{world}$ the country is not good at making the good, this country is importing $Q_D - Q_s = 80 - 20 = 60$ units.



Free-Trade



W/ Tariff

Domestic CS

$$= \frac{1}{2} \cdot 70 \cdot (100 - 30) = 2450$$

Dom PS

$$= \frac{1}{2} \cdot 30 \cdot 30 = 450$$

CS
PS

ii) Tariff revenue (orange) = $(30 - 20)(70 - 30) = 400$

iii) DWL (green) = $\frac{1}{2} \cdot (30 - 20) \cdot (30 - 20) + \frac{1}{2} \cdot (80 - 70) \cdot (30 - 20) = 100$