

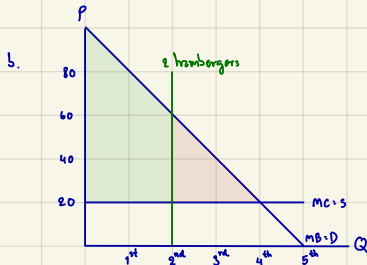
Exercise 1

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.

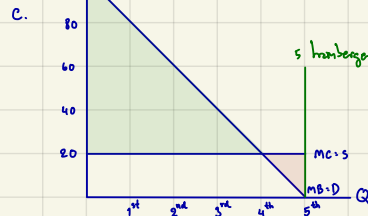
Quantity	Total Benefit	Marginal Benefit	Total Cost	Marginal Cost	Total Net Benefit
1 st	80	80	20	20	60
2 nd	140	60	40	20	100
3 rd	180	40	60	20	120
4 th	200	20	80	20	120
5 th	208	0	100	20	108

- 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?

a. 4 units because marginal benefit must be greater or equal to marginal cost.

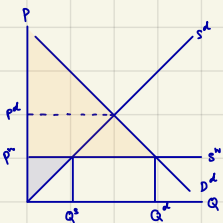


It's underallocation,
and $DNL = \frac{1}{2} \cdot 2 \cdot (60 - 20) = 40$

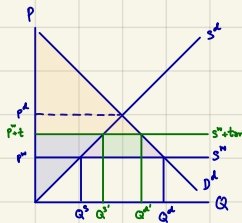


It's overallocation,
and $DNL = \frac{1}{2} \cdot 1 \cdot 20 = 10$

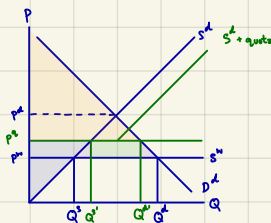
2. With diagrams, explain the differences between tariff and quota. Also, explain the impact on domestic stakeholders (consumers, producers, and government), i.e., who is better off and who is worse off? Why?



"No tariff & quota"



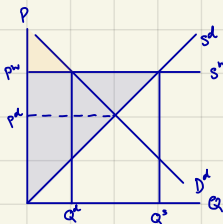
"Tariff"



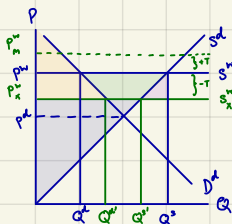
"Quota"

When tariff adds into the market, it'll shift the world supply "S^w" up because the world producers produce more. While quota adds into the market, it'll shift domestic price "p^d" down to quota price "p^q" but still higher than world price "p^w" that shifts domestic supply "S^d" to S^{d-quota}. The same things are increasing in producer surplus (blue areas), decreasing in consumer surplus (orange areas) and creating DNL (purple areas). Moreover, the similar thing is the revenue in the green areas; tariff earned by government and quota earned by license holders. That means the groups of people who are better off are producer, government and license holder, on the other hand the group of people who is worse off is consumer who bears higher cost.

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).



"Free trade"



"Export tax": exporting country

Firstly, when the government imposes tax on exporting goods, it'll increase the world price import. Secondly, the foreign demand will decrease (shift left) according to the higher price. Thirdly, it declines in export. So, there're a lot of goods in domestic that the producers will be lower the price. That means the government will gain the benefit from tax revenue (export tax "T") and the consumers will gain the benefit from consuming in cheap price "p^w". While, the producers will suffer from losing benefit.

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?

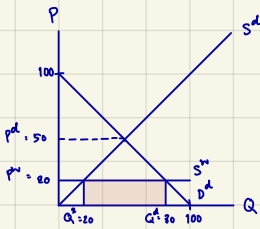
A small open economy is a country which participates in the international trade have no effect on world economy (price and income). It's defined by the size of the working population which is less than the global medium, and it shows gap between the large-small open economy.

4. A "small", open economy is engaging in international trade. Its domestic demand curve is given by

$$P = 100 - Q \text{ and its domestic supply curve is given by } P = Q. \text{ The world price of the good is } 20\$.$$

Answer the following questions.

- 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?



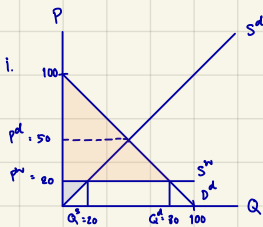
$$P^d: P = 100 - Q; P \cdot Q, Q^s = 20; P \cdot Q$$

$$P = 50 \quad Q^d = 100 - 20 = 80; P \cdot 100 - Q$$

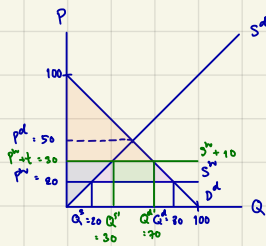
This country is importing economy because the price domestic " P^d " is higher than world price " P^w " that the consumers prefer to consume the importing goods [low price], and the country imports $80 - 20 = 60$ units $\$$

- 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

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



"Original"



"Tariff"

$$Q^s = 30; P \cdot Q, Q^d = 100 - 30 = 70$$

$$\text{Domestic consumer surplus [after tariff]} = \frac{1}{2} \cdot 70 \cdot (100 - 30) = 2450 \text{ \$}$$

"orange area"

$$\text{Domestic producer surplus [after tariff]} = \frac{1}{2} \cdot 30 \cdot 30 = 450 \text{ \$}$$

"blue area"

ii. Tariff revenue [green area] = $(30 - 20) \cdot (70 - 30) = 10 \cdot 40 = 400 \text{ \$}$

iii. DNL [purple area] = $\frac{1}{2} \cdot (30 - 20) \cdot (30 - 20) + \frac{1}{2} \cdot (70 - 30) \cdot (30 - 20) = 2 \cdot \frac{1}{2} \cdot 10 \cdot 10 = 100 \text{ \$}$