

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 | 190 | 40 | 60 | 20 | 120 |
| 4 th | 200 | 20 | 80 | 20 | 120 |
| 5 th | 200 | 0 | 100 | 20 | 100 |

- a. How many units of hamburgers should you order? Why?

4 units of hamburgers should be ordered in order to maximize benefit
we should order where $MB = MC$ which equals to 4 units of hamburgers

- b. Suppose you decide to order 2 hamburgers. Is this underallocation or overallocation? Explain.
How much is your deadweight loss?

Underallocation since marginal benefit from order hamburger is more than its
marginal cost. The deadweight loss is $120 - 100 = 20$

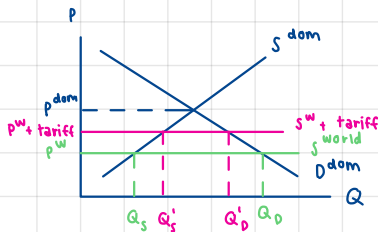
- c. Suppose you decide to order 5 hamburgers. Is this underallocation or overallocation? Explain.
How much is your deadweight loss?

Overallocation since marginal benefit from order hamburger is less than
marginal cost. The deadweight loss is $120 - 100 = 20$

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?

- Assume
1. Small domestic economy
 2. the world supply is horizontal

Tariff



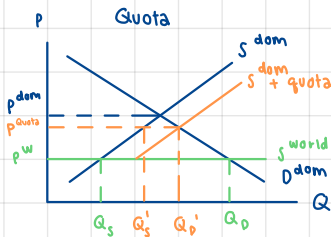
Impact on domestic stakeholders

Consumer : consumers are worse off in both case since they have to pay at higher price .

Producer : producers are better off in both case since they can sell at higher price .

government : for tariff, government will gain benefit from tariff. While quota, the license holders will gain benefit, but this amount will be counted as DWL if the holders are foreigners .

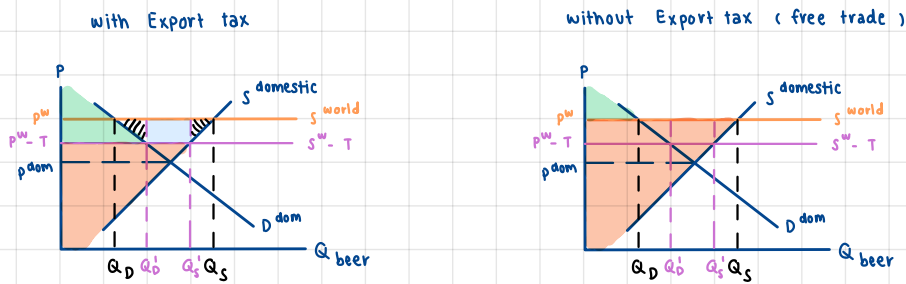
Quota



The difference between tariff & quota

- : Quota shifts the supply curve, while tariff does not.
- : The owner of revenue from world price & the new price
 - ↳ tariff : government quota : license holders
- # Case when the license holders are foreign firm, those revenue will become deadweight loss to society.

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).



Let green colour represents consumer surplus
 orange colour represents producer surplus
 blue colour represents government revenue
 black colour represents deadweight loss

Analysis : Domestic consumers gain benefit, while domestic producers lose benefit.
 Government gains benefit from tax revenue, but society is worse off due to deadweight loss (loss to producers is larger than gains to consumer and government ; decrease in total surplus)

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?

Being small country means that demand and supply of country does not affect the world. The world supply for small country is horizontal line since the world can supply the country as much as it needs.

- 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?

$$Q_d = 100 - P \quad Q_s = P \quad p^{\text{world}} = 20 \$$$

$$: Q_d > Q_s = \text{importing country} \quad \text{domestic price : } Q_d = Q_s$$

$$100 - P = P$$

$$p^{\text{dom}} = 50$$

$$\text{At } p^{\text{world}}, Q_d = 80 \quad Q_s = 20$$

$$: \text{the country imports } 80 - 20 = 60 \text{ units}$$

The economy is an importing country since the country is not good at producing goods. The country is currently importing 60 units of goods.

- 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.

$$p^{\text{world}} + \text{tariff} = 20 \$ + 10 \$ = 30 \$$$

- i. Domestic consumer surplus decreases, while there is a gain in domestic producer surplus.

$$Q'_d = 100 - 30 = 70 \quad Q'_s = 30$$

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

$$PS = \frac{1}{2} (30)(30) = 450$$

- ii. Tariff revenue

$$Q'_m = Q'_d - Q'_s = 70 - 30 = 40$$

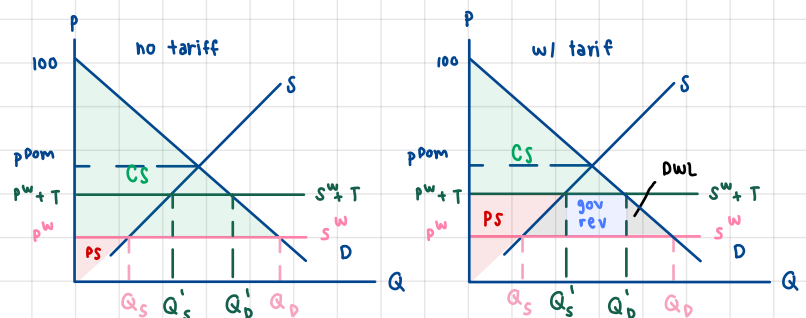
$$\text{Tariff revenue} = 40(10) = 400 \$$$

- iii. Dead weight loss

$$= \frac{1}{2} T [(Q'_s - Q_s) + (Q_d - Q'_d)]$$

$$= \frac{1}{2} (10 \$) [(30 - 20) + (80 - 70)]$$

$$= 100$$



$$CS : \frac{1}{2} (80)(100 - 20)$$

$$= 3200$$

$$PS : \frac{1}{2} (20)(20)$$

$$= 200$$

$$\text{total surplus} = 3400$$

$$CS : 2450$$

$$PS : 450$$

$$\text{gov rev} : 400$$

$$DWL : 100$$