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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
1st	80	80	20	20	60
2nd	140	60	40	20	100
3rd	180	40	60	20	120
4th	200	20	80	20	120
5th	200	0	100	20	100

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.)

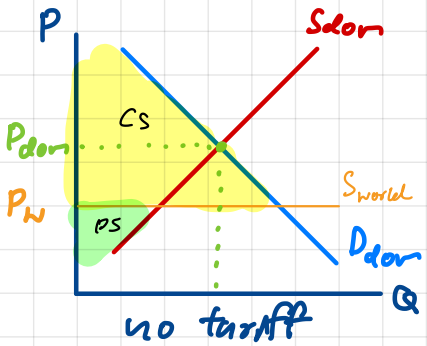
1.a) 4 units of hamburgers, since the MC = MR at the 4th hamburger and it meets the maximize utility condition.

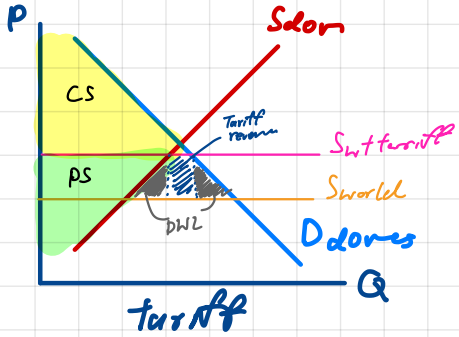
1.b) It's underallocated when ordering just for 2 buyers since this does not satisfy the optimal condition. Thus, the amount of DWL is 20 from the diff b/w TB of ordering 4 hamburgers and 2 hamburgers

1.c) It's overallocated to order 5 hamburgers b/c the 5th hamburgers doesn't give marginal benefits anymore. Thus, the DWL is 20, the diff b/w ordering 5 burgers & 4 hamburgers

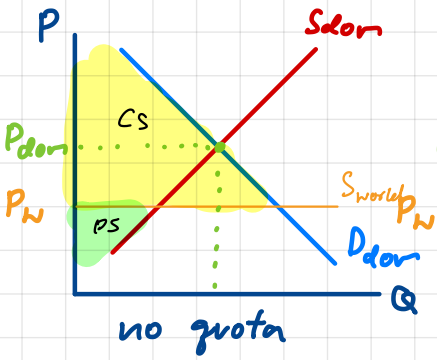
2)

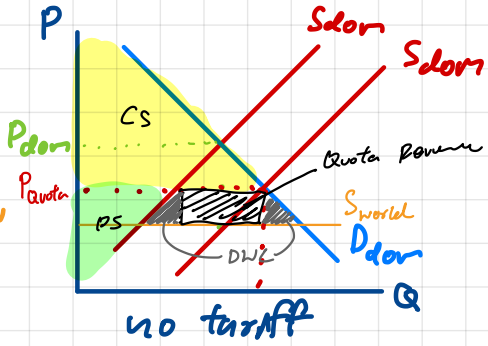
Tariff : imposing tax on imported goods → Price increase





- consumer pay more, buy less
- producer sell at higher price (ps ↑ from no tariff)
- Gov get tariff revenue

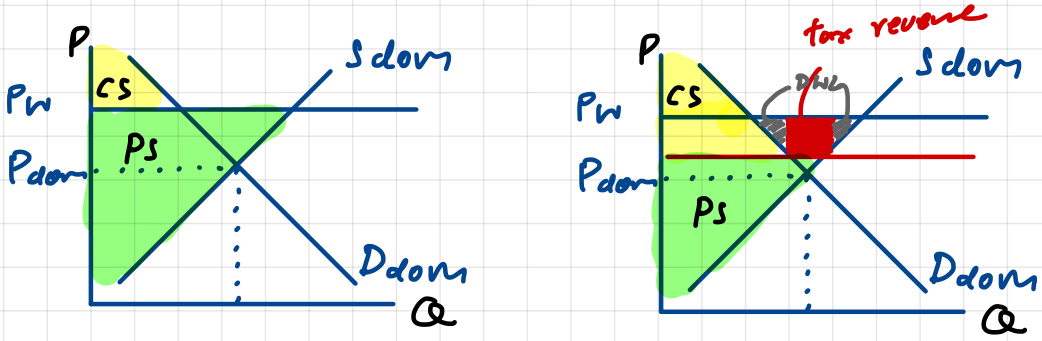




- gov set a limit on how much can be imported
- gov issues import licences to firm, usually be foreign firm
- these licences allows the holders to buy goods abroad at PW & sell in domestic mkt at higher price

3.)

Export tax: tax on export goods → P_W decrease to $P_W - T$



Export tax, as a whole, makes society worse-off because there's DWL

Yet, domestic consumers are better-off because they can buy goods at lower price

Consume surplus increase. Also gov is better-off b/c they get tax revenue

while producer are worse-off

4.)

4.a) small countries need to buy or sell goods at mkt price
so, supply = world supply

4.b) domestic price ; $100 - Q = Q$

$Q = 50$, $P = 50$ b/c $P > P_{world}$ → import

if $P = 20$, $Q_D = 80$, $Q_S = 20$, so import = 60

4.c)

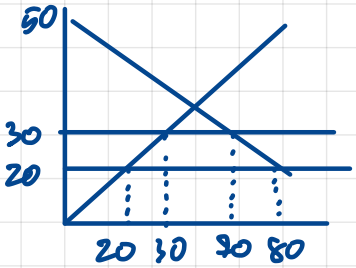
i) $CS = \frac{1}{2} \times 90 \times 90 = 2{,}450$

$PS = \frac{1}{2} \times 30 \times 30 = 450$

ii) import = 90 − 30 = 40

revenue = 40 × 10 = 400

iii)



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

$= 100$ *