## 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.

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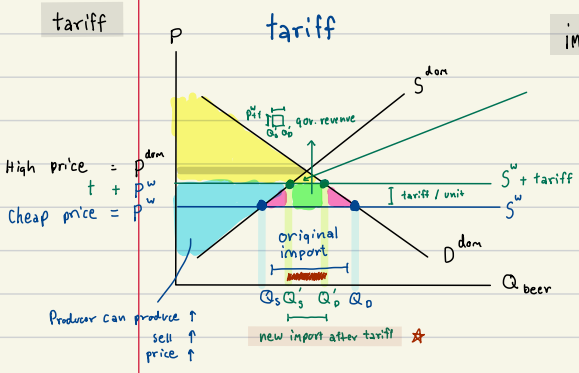
a) 4 unit (max total net benefit)

b) Underallocation, the gain that could have been achieved but in the end we fail to achieve (MB > MC). DWL = 120 - 100 = 20

c) Overallocation, you should not produce but produce (MB < MC). DWL = 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?

tariff




Consumers pay more so they buy less (CS↓)

Producers sell at higher price, so they produce more (PS↑)

gov. gets tariff revenue from (new import × tariff/unit)

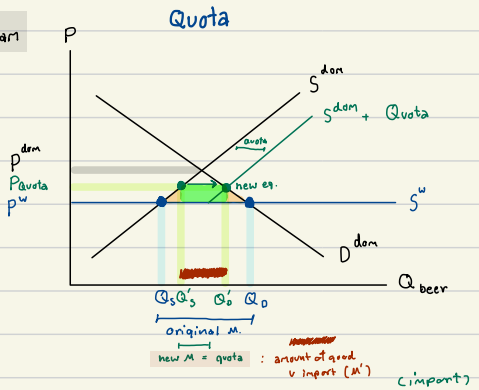
DWL : loss in efficiency

CS ⋯ Consumer ⋯ (worse off)

PS ⋯ producer ⋯ (better off)

S : DWL

import Diagram




Shift only upper part b/c just bring some extra amount from abroad

Quota allows : [foreign firms (import licences) increase supply in economy
[domestic producer

∴ it's like $P^{dom}$ but cheaper b/c

($S^d \rightarrow S^d$ + Quota) → price ↓ (cheaper than $P^d$)

you have more supply as $S^{dom}$ + Quota

Consumer ⋯ (worse off)

producer ⋯ (better off)

Quota Revenue

└ earn by : licence holders who buy goods at $P^w$ and sell at $P_{quota}$

DWL

└ b/c gov. intervention $Q_S'$ $Q_D'$

→ Quota Revenue can be DWL if licence holders are foreign firms. → Quota can be worse than tariff.

⋯

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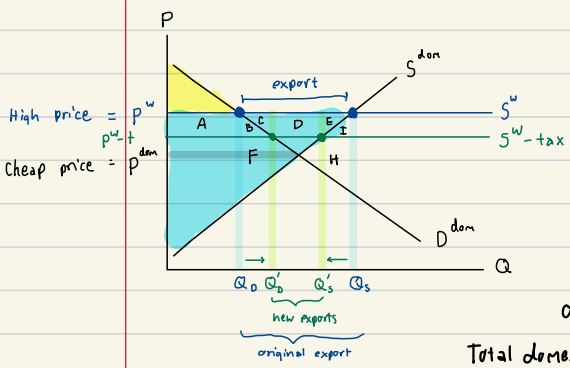
policy objectives : 1) reducing domestic prices 2) revenue

policy downsides : 1) efficiency 2) damaging producers




| | Gain ü | Loss ñ |
|---|---|---|
| Consumer | ~~AB~~ | |
| Producer | | ~~A~~BC~~D~~E |
| Government | ~~D~~ | |
| total net | | CE |

Original export revenue of $Q'_D - Q_D$ : CBF

Total domestic consumer benefits of $Q'_D - Q_D$ : BF

C

Export revenue of $Q_S - Q'_S$ : EIH

Total production cost of saving : IH

E

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.
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      i. Domestic consumer and producer surplus after the intervention
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a) small countries have to buy/sell goods at mkt price, then supply = world supply

b) domestic price : $100 - Q = Q$

$Q = 50$

$\therefore P = 50$ because $P >$ world price $\Rightarrow$ import

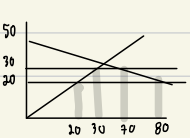
also if $P = 20$, $Q_D = 80$, $Q_S = 20$, then import = 60

c) i) $CS = \frac{1}{2} \times 70 \times 70 = 2450$ , $PS = \frac{1}{2} \times 30 \times 30 = 450$

ii) import (M) = 70 - 30 = 40

revenue = $40 \times 10 = 400$

iii)




$DWL = \left[\frac{1}{2} \times 10 \times 10\right] + \left[\frac{1}{2} \times 10 \times 10\right] = 100$