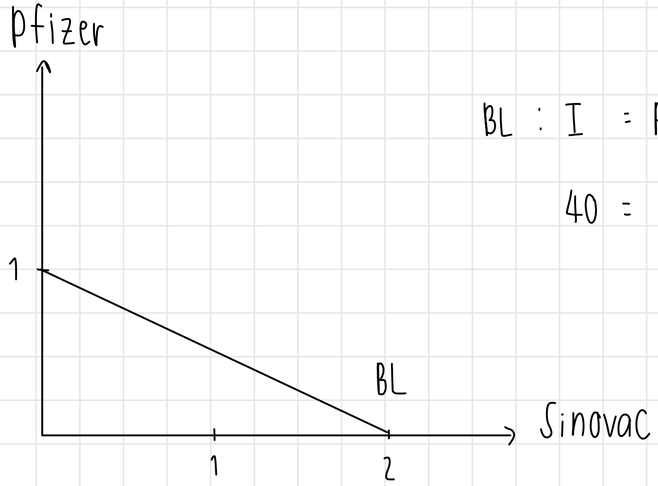
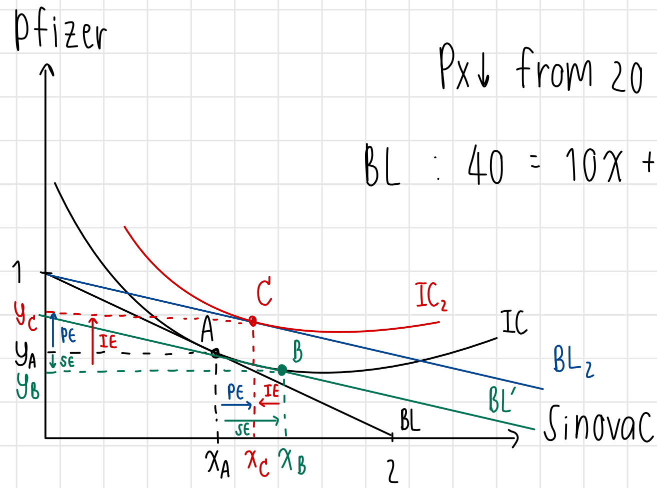
1.a)



$BL : I = P_x X + P_y Y$

$40 = 20X + 40y$

1.b)



$P_x \downarrow$ from $20 \rightarrow 10$

$BL : 40 = 10X + 40y$

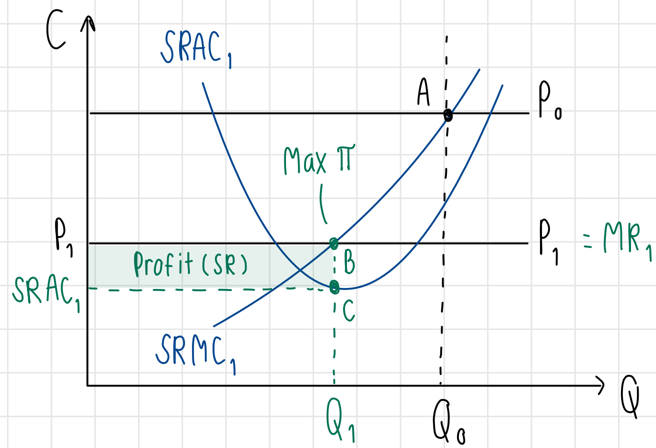
- Substitution Effect ; When Price of Sinovac decrease , consumer will increase sinovac and substitute by decrease Pfizer until the utility is constant (A → B)
- Income Effect ; When Price of Sinovac decrease, purchasing power will increase from BL' to BL_2

the consumer will decrease Sinovac as inferior goods and increase Pfizer as normal goods (B → C)

- Price Effect ; When Price of Sinovac decrease, consumer will increase Sinovac as ordinary goods (A → C)

* Assume that Sinovac and Pfizer are not "Perfectly Substitute"
So, the indifference curve will be convex shape *

2.a)



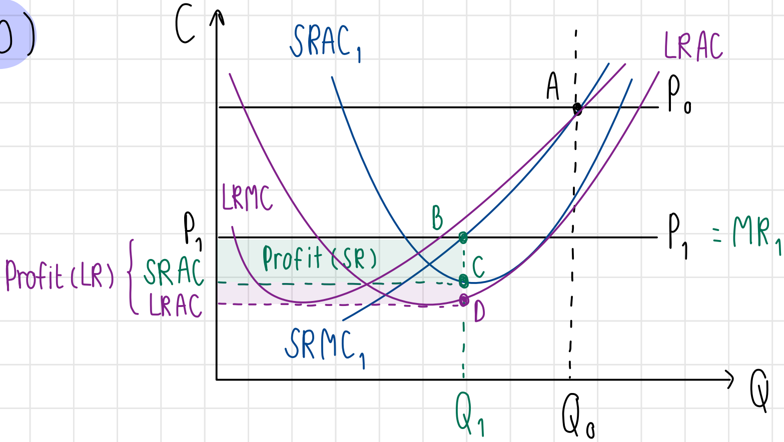
$$\text{Max } \pi \; : \; MR = MC$$

; the new Short-Run Equilibrium quantity Q_1 is Point B

$$P_1 = SRMC_1$$

; the profit of the firm : $\pi_{SR} = (P_1 - SRAC_1) \cdot Q_1$

2b)



$$\pi_{SR} = (P_1 - SRAC) \cdot Q_1$$

$$\pi_{LR} = (P_1 - LRAC) \cdot Q_1$$

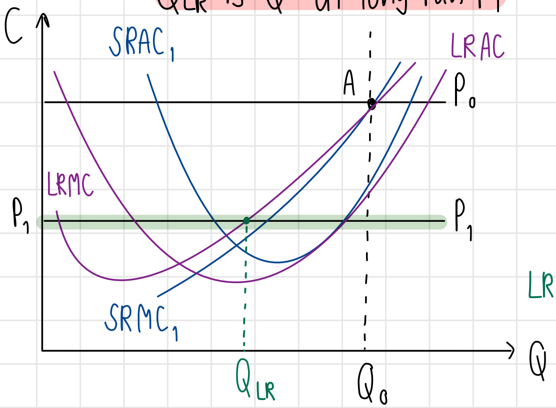
Because of $LRAC < SRAC \rightarrow \pi_{LR} > \pi_{SR}$

$\therefore$ In conclusion, Cost in short run is higher than cost in long run

So, it makes the profit in long run more than the profit in Short run

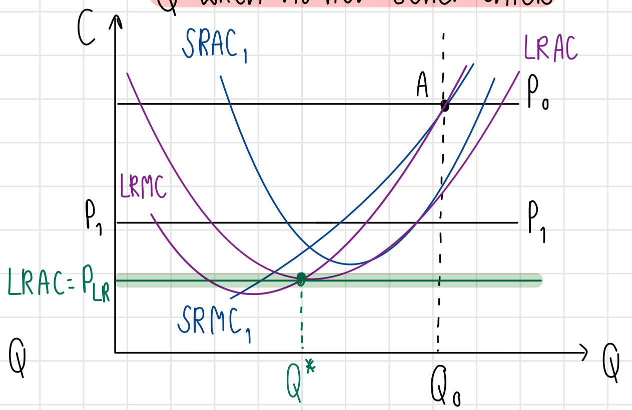
2.C)

Q_{LR} is Q^* at long run P_1



LR equilibrium at P_1 : $P_1 = LRMC$

Q^* when no new seller enters



LR equilibrium : $P_{LR} = LRMC = \min LRAC$

3.a) GPO should import 10 million doses and at \$80 can be sold for each dose in order to maximize profit

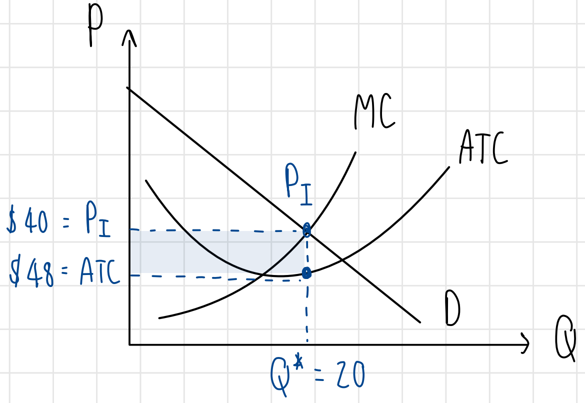
3.b)
$$\pi = (80 - 65) \cdot 10$$
$$= 180$$

From 3.a, \$180 million is the total profit that GPO receives

3.c)
$$P_I : P = MC \;, \quad P_F : P = ATC$$

If government intervene, GPO needs to import 18 million doses and at \$50 per dose to be set

3.d)



When the government need $Q^* = 20$ million doses, Monopoly face loss since ATC > P_I^* ∴ Government must subsidize that loss

$$\text{Subsidize} = (ATC - P) \cdot Q^*$$
$$= (48 - 40) \cdot 20$$
$$= \$160 \text{ million}$$

and each person will pay at \$40