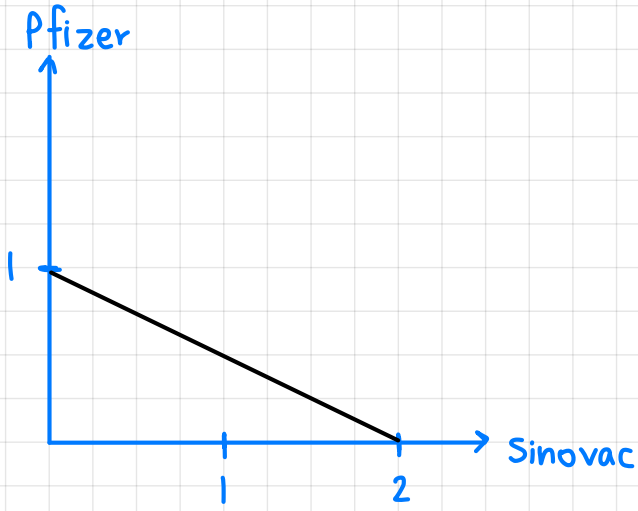
1.a)

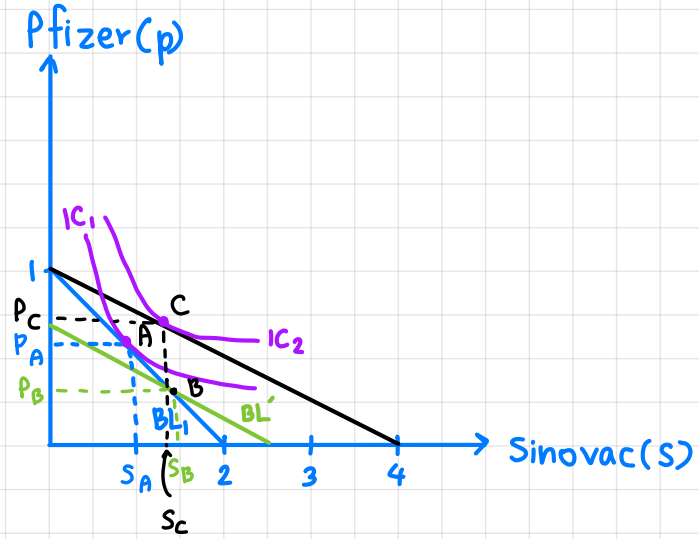



Consumer has $40

Pfizer = $40 => 40 = 40P, P=1

Sinovac = $20 => 40 = 20S, S=2

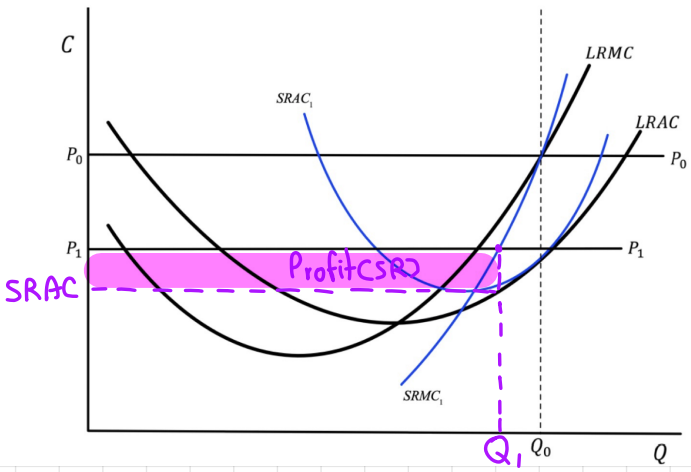
1.b)



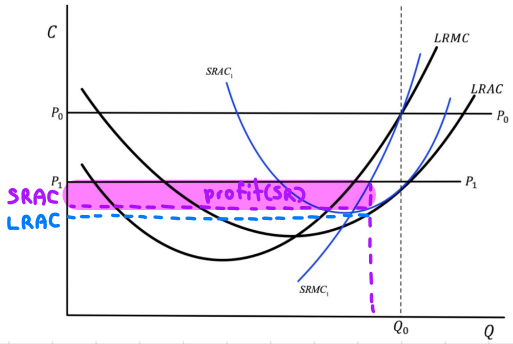

- sinovac is an inferior good
- price slashed by half $20 → $10
- pfizer is a normal good

| | S | P |
|---|---|---|
| SE | $S_A \rightarrow S_B$ (+) | $P_A \rightarrow P_B$ (-) |
| IE | $S_B \rightarrow S_C$ (-) | $P_B \rightarrow P_C$ (+) |
| PE | $S_A \rightarrow S_C$ (+) | $P_A \rightarrow P_C$ (+) |

2.a)




2.b)



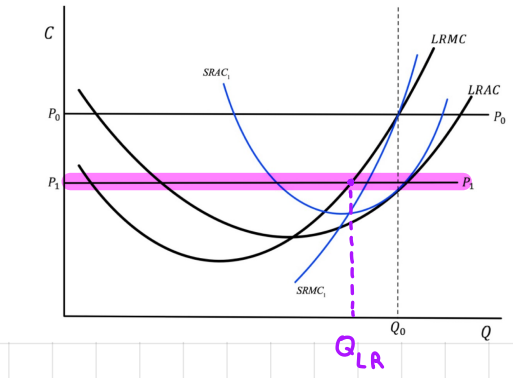

$\pi_{SR} = (P_1 - SRAC) \times Q_1$

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

· due to $LRAC < SRAC$

$\therefore \pi_{LR} > \pi_{SR}$

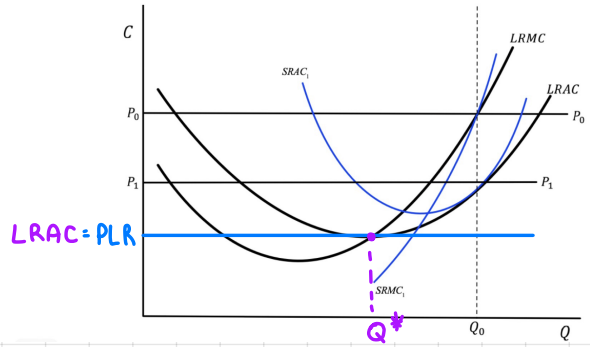
2.c)




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

LR equilibrium at $P_1$: $P_1 = LRMC$

2.C)




Ans: $Q^*$ when there is no new seller enter

LR equilibrium: PLR = LRMC
= min LRAC

Assignment 3
Assigned on Nov 9th, 2021. To be submitted on Nov 18th, 2021 before midnight.

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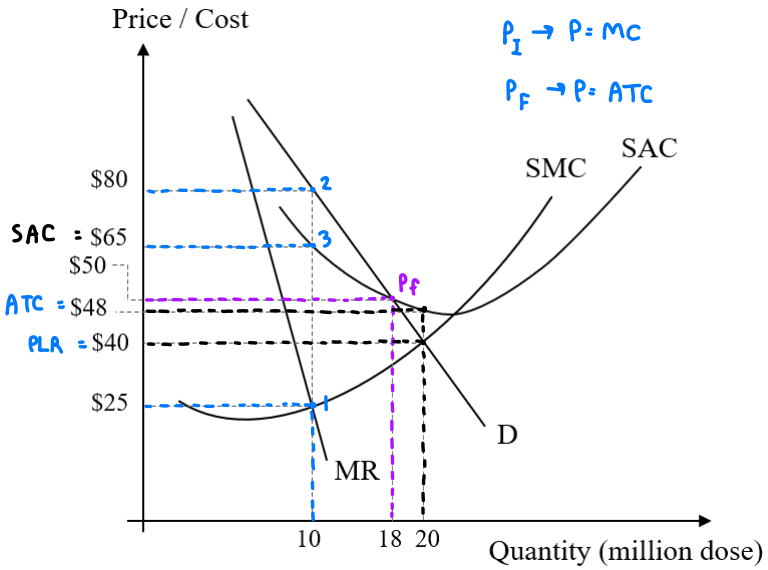
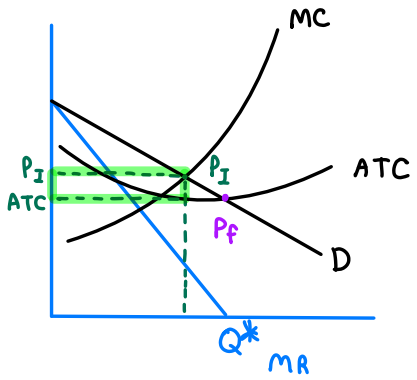
**3.** Thai government decides to import vaccines from J&J through the Government Pharmaceutical Organization (GPO). Supposed that GPO can act as a private monopoly firm, demand, revenue and cost of importing are displayed in the following graph in USD. Note that a single dose of J&J vaccine is sufficient to immunize COVID-19. Answer the following questions clearly.




Q*m

**3.a)** If GPO wants to maximize profit, how many million doses should they import and at which price can be sold for each dose? P*m Q*m = 10 million doses, P*m = $80 per dose

**3.b)** According to 3.a), how much is the total profit that GPO receives in million USD?

**3.c)** If the government decides to intervene and set a fair price, how many million doses GPO needs to import and how much the price to be set?

**3.d)** To achieve herd immunity with a new strategy, the target number of people privately vaccinated is 20 million people. How much **for a dose** that each person pays for the vaccine and how much does the government should subsidize **in total**?

3.b) $\pi = (80-65) \times 10 = \$150$ million

**********

3.c) $Q^*_m = 18$ million doses $P^*_f = \$50$ per dose

3.d) when goverment need $Q^* = 20$ million doses, the monopoly faces loss to ATC => $ATC > P^*_I$

3.a) $Q^*_m$ = 10 million doses, $P^*_m$ = $80 per dose

3.b) $\pi = (80-65) \times 10 = \$150$ million

3.c) $Q^*_m$ = 18 million doses $P^*_f$ = $50 per dose

3.d) when government need $Q^*$ = 20 million doses, the monopoly faces loss to ATC => $ATC > P^*_I$

Therefore, the government must subsidise that loss in order to create incentive to the monopoly.

- subsidize $\longrightarrow (ATC - P) \times Q^*$

$= (48-40) \times 20$

$= \$160$ million