

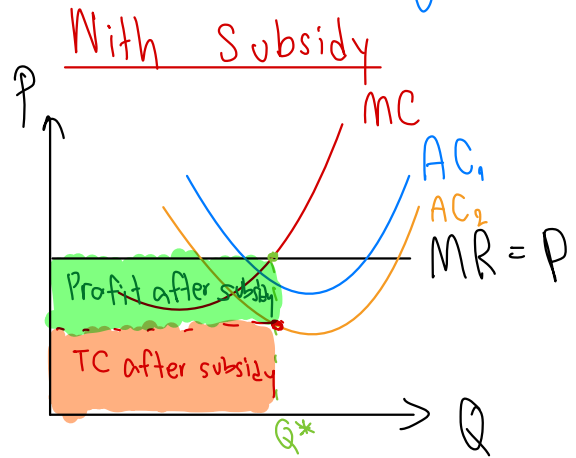
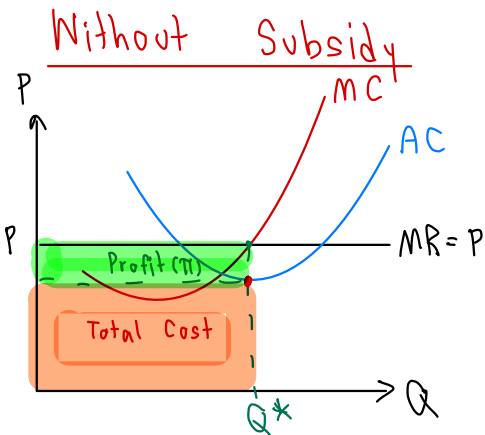
Veerapat Satapornchaiyasit

6404641323

**HW#11, Due May 6, 2021** Analyze the case the firm receives subsidy for the following two different cases to find out how the firm's quantity and profit change.

- The government gives a lump sum subsidy of 20,000 bahts to each firm.
- Suppose that the firm was producing 1,000 units and the government gives a subsidy of 20 bahts/unit so the total subsidy is also 20,000 bahts if the firm does not change its production of 1,000 units. Do you think, to maximize its profit with the subsidy of 20 bahts/unit, the firm will increase/decrease its production from 1,000 units? Does the firm receive higher profit? Does the firm receive more/less subsidy than 20,000 bahts?

a) The government gives 20,000 bahts. That makes fixed cost change.



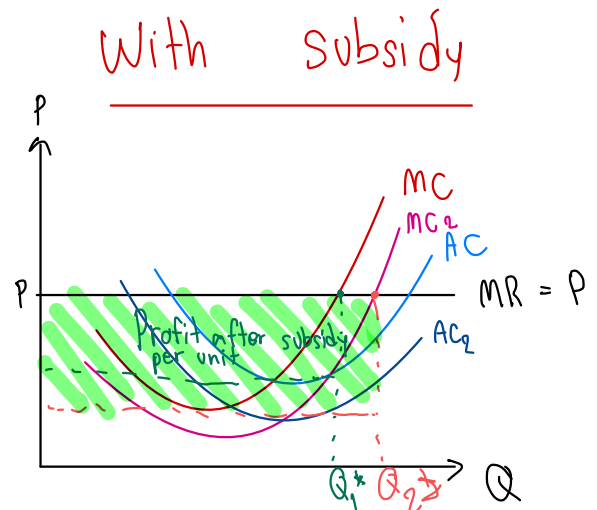
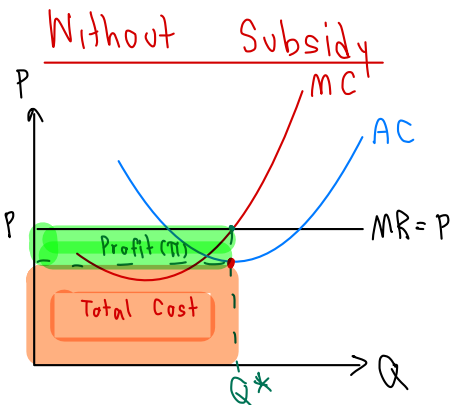
- Profit maximise at  $Q^*$
- when  $MC = MR$  and slope  $MC(Q^*) > MR(Q^*)$
  - At  $Q^*$ ,  $TR(Q^*) = Q^* \cdot P$
  - $TC(Q^*) = Q^* \cdot AC(Q^*)$

Because fixed cost doesn't change meaning that MC doesn't change, but TC decrease because government alleviate the cost by giving subsidy, so Profit increases ✖

**HW#11, Due May 6, 2021** Analyze the case the firm receives subsidy for the following two different cases to find out how the firm's quantity and profit change.

- The government gives a lump sum subsidy of 20,000 bahts to each firm.
- Suppose that the firm was producing 1,000 units and the government gives a subsidy of 20 bahts/unit so the total subsidy is also 20,000 bahts if the firm does not change its production of 1,000 units. Do you think, to maximize its profit with the subsidy of 20 bahts/unit, the firm will increase/decrease its production from 1,000 units? Does the firm receive higher profit? Does the firm receive more/less subsidy than 20,000 bahts?

b) The government gives subsidy 20 ฿ / unit which affects both variables and fixed costs because it involves with quantity to produce 1000 units.



- Profit maximise at  $Q^*$
- When  $MC = MR$  and slope  $MCC(Q^*) > MR$
  - At  $Q^*$ ,  $TR(Q^*) = Q^* \cdot P$
  - $TC(Q^*) = Q^* \cdot AC(Q^*)$

∴ Receiving this subsidy 20฿/unit, quantity produce will increase and profit will increase as well.

∴  $MC \downarrow$  so firm will increase quantity, to sell until  $P = MC_2$  from  $Q_1^* \rightarrow Q_2^*$

Moreover, AC will be decreased and  $\pi \uparrow$

because  $\pi = TR - TC$  ( $TR \uparrow, TC \downarrow$ )

∴ subsidy formula is  $20Q = 20(1000) = \$20,000$