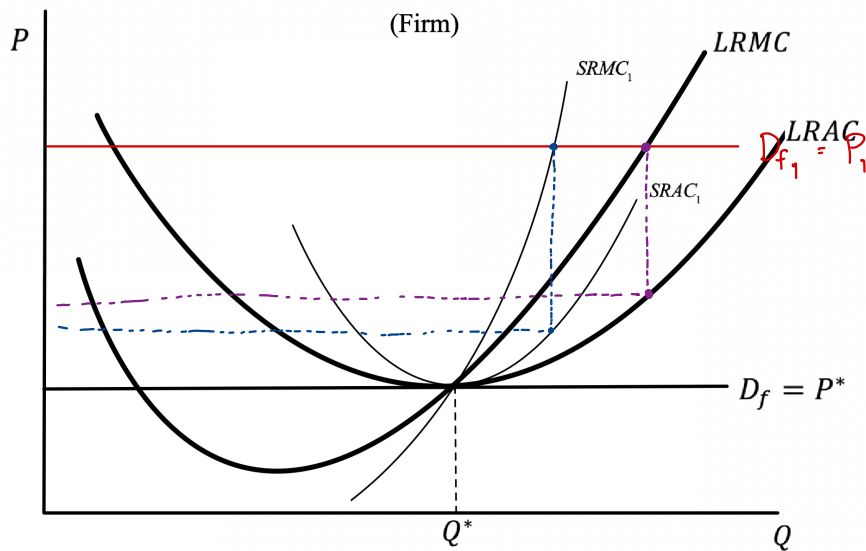


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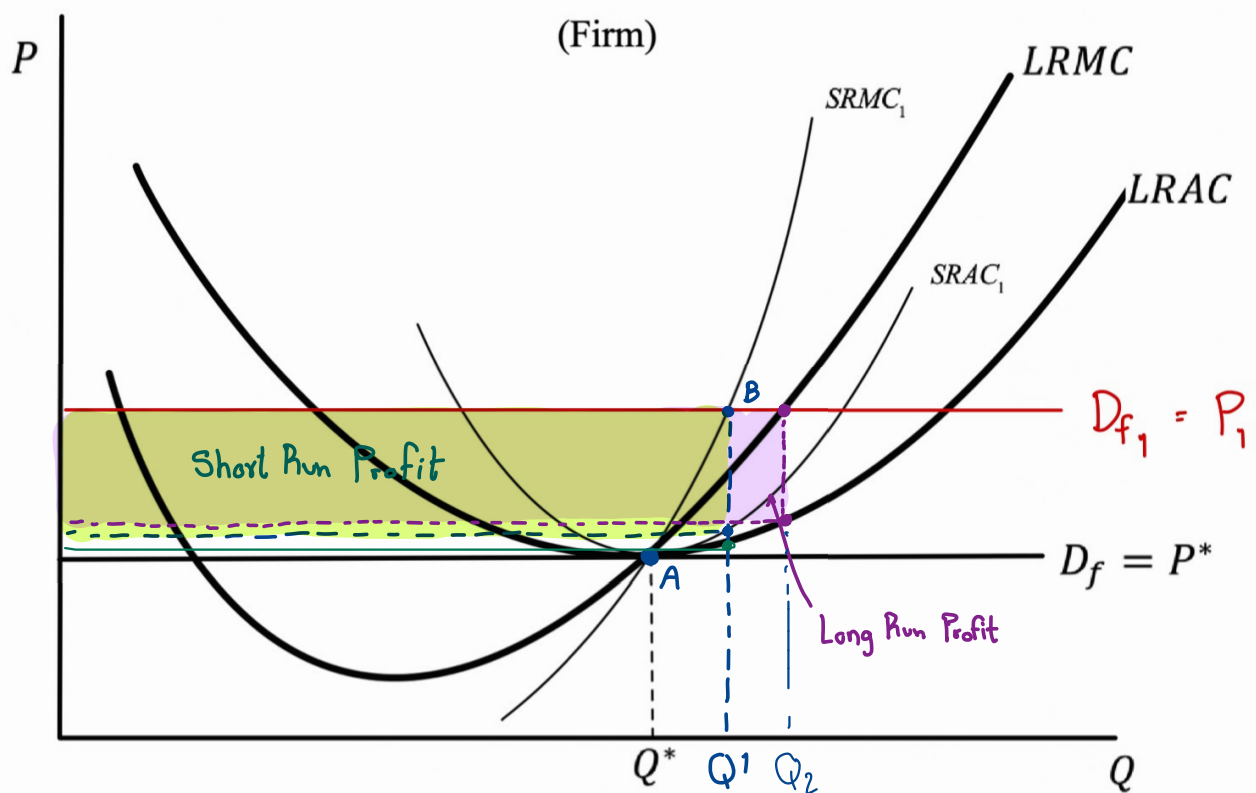
HW#13 Due May 13, 2021

Suppose that the market is in a Long-Run equilibrium where the price is at P^* and each firm produces Q^* . With the given $SRMC_1$ and $SRAC_1$ and $LRMC$ and $LRAC$, the market price increases from P^* to P_1 .

- Show how the firm will change its output in Short Run and Long Run.
- Indicate the profit the firm receives in Short Run and Long Run.
- Explain why the profit in Long Run is bigger than profit in Short Run.



b)



a) the market price increase from P^* to P_1

Short Run

→ the firm will adjust its output to maximize profit

→ Equilibrium will change from A to B where the firm will produce more from Q^* to Q_1 and satisfies the equilibrium the eq condition

$$1) MR(Q_1) = P_1 = MC(Q_1)$$

$$2) \text{slope } MR(Q_1) = 0 < \underbrace{\text{slope } MC(Q_1)}_{\text{some positive value}}$$

Long Run

→ as same scenario as short run to increase output

$$1) MR(Q_1) = LRMC(Q_1)$$

$$2) \text{slope of } MR(Q_1) < \text{slope of } LRMC(Q_1)$$

c) At the production at Q_1 , the LRAC is below SRAC so the profit of long run at Q_1 is more than short run. The long run at Q_1 is not profit maximization yet because $MR \neq MC$ so we move from Q_1 to Q_2 to maximize the profit. Since at Q_1 long run profit is already more than short run profit, this being the longer profit at Q_2 become further more in short run in Q_1 . Therefore $LR(Q_2) > LR(Q_1) > SR(Q_1)$.