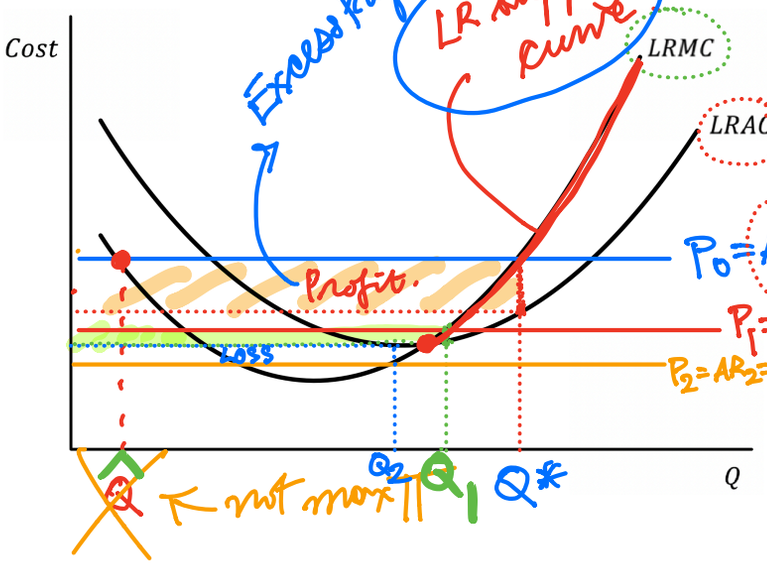
Chapter 19 Perfect Competition in Long Run

We consider the Long Run Equilibrium in the time frame long enough for the company to change all inputs, but not long enough for a new entry.



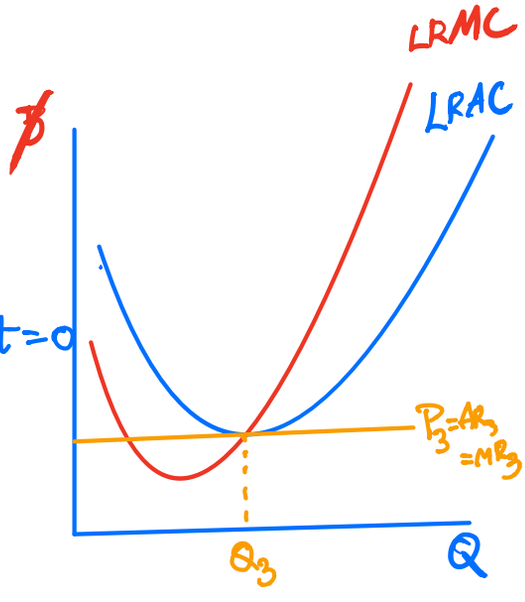
The equilibrium quantity is at Q^* where the firm receives a profit =

Equilibrium Conditions: For a firm to maximize profit at Q^* if
1) $MR(Q^*) = LRMC(Q^*)$
2) $slope\ of\ MR(Q^*) < slope\ of\ LRMC(Q^*)$.

- If the market price decreases from P_0 to P_1, how would the firm adjust is production? Does the firm receive ~~more~~/less profit?
- If the market price is so low that the firm receives a loss in this long-run time frame, will the firm shut down or stay in the market?
- Where is the shut-down price in Long Run?
- As we keep changing the market equilibrium price, we have the resulting quantity the firm will produce to maximize its profit—Long Run Supply Curve.

Excess Profit and Normal Profit—when there is Free Entry/Exit, each firm has to consider the ***Economic Profit*** that includes the opportunity cost of being in the market.

- In the Very Long Run—long enough to leave or enter a market—the entrepreneur has to take into consideration profit/benefit he can earn in doing ***other next best thing***.
- This profit/benefit of other next best thing is his ***opportunity cost*** of being in the market.
- We will suppose from now on that this opportunity cost is included in the Long-Run Costs.



- Thus if a firm earns an Economic Profit > 0 in Long Run, it is said to earn an ***Excess Profit***.
- In Long Run, if ***Economic Profit*** = 0, the firm is said to earn a ***Normal Profit***. It actually receives a profit equal to its opportunity cost of being in this market.

(From 01 Introduction/Opportunity Cost)
Example A coffee shop owner

- makes a revenue of 200,000 bahts/month
- pays costs of land, labor and capital = 150,000 bahts/month
- Profit = 50,000 /month

Accounting Profit: = 50,000.

Economic Profit: What if the owner could earn 30,000 bahts/month working for an advertising company? 50,000

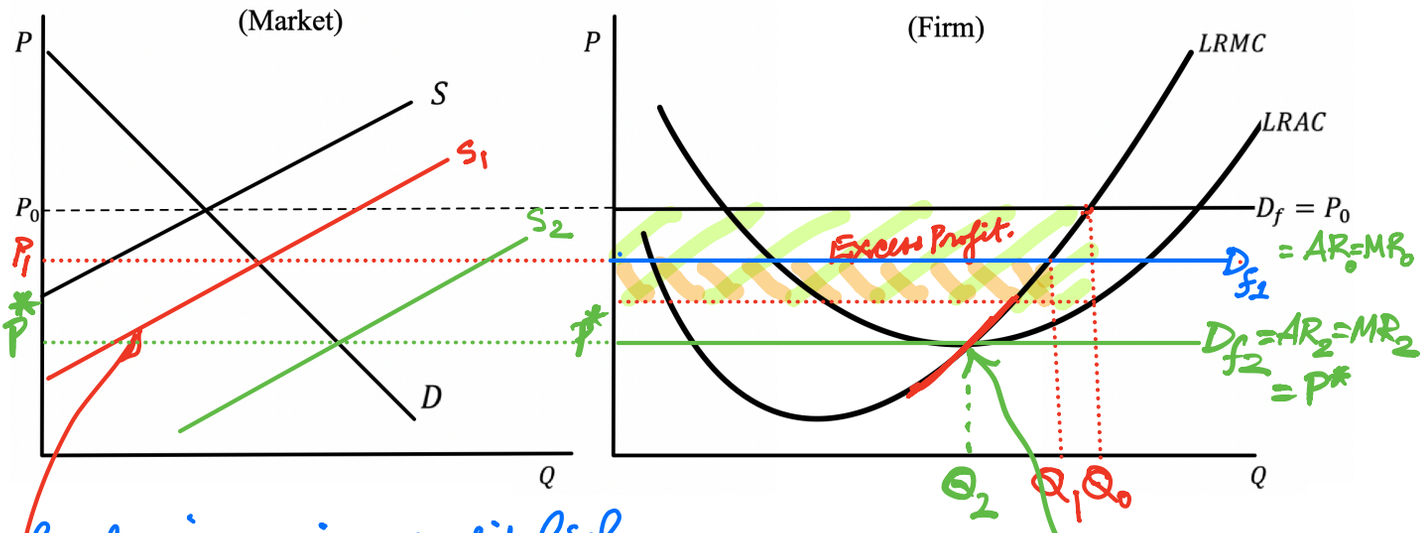
Excess Profit = 50,000 − 30,000, = 20,000

Excess Profit = 50,000 − 50,000 = 0 − zero excess profit. ← the firm receives Normal Profit.

Normal Profit ⇒ Excess Profit = 0.
↳ receive profit equal to the opp cost of being in this market.

Equilibrium in Very Long Run — there can be new sellers entering the market.

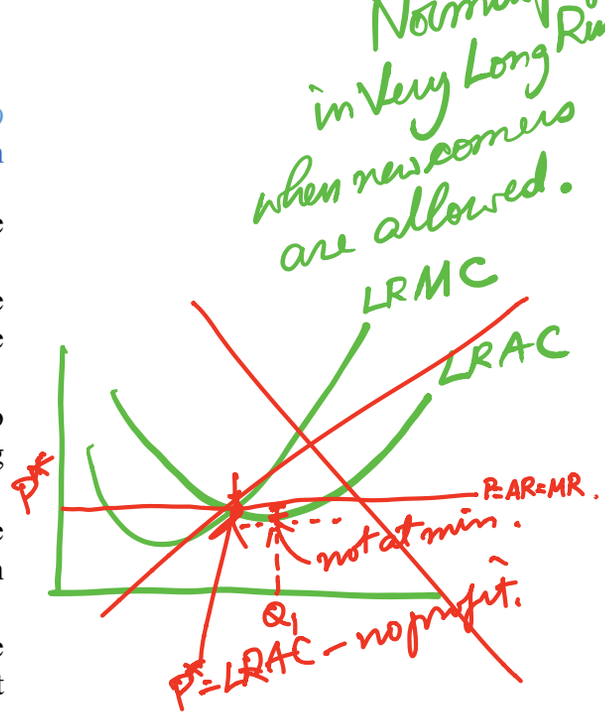
- Excess Profit attracts new comers into the market
- Loss repels sellers from the market



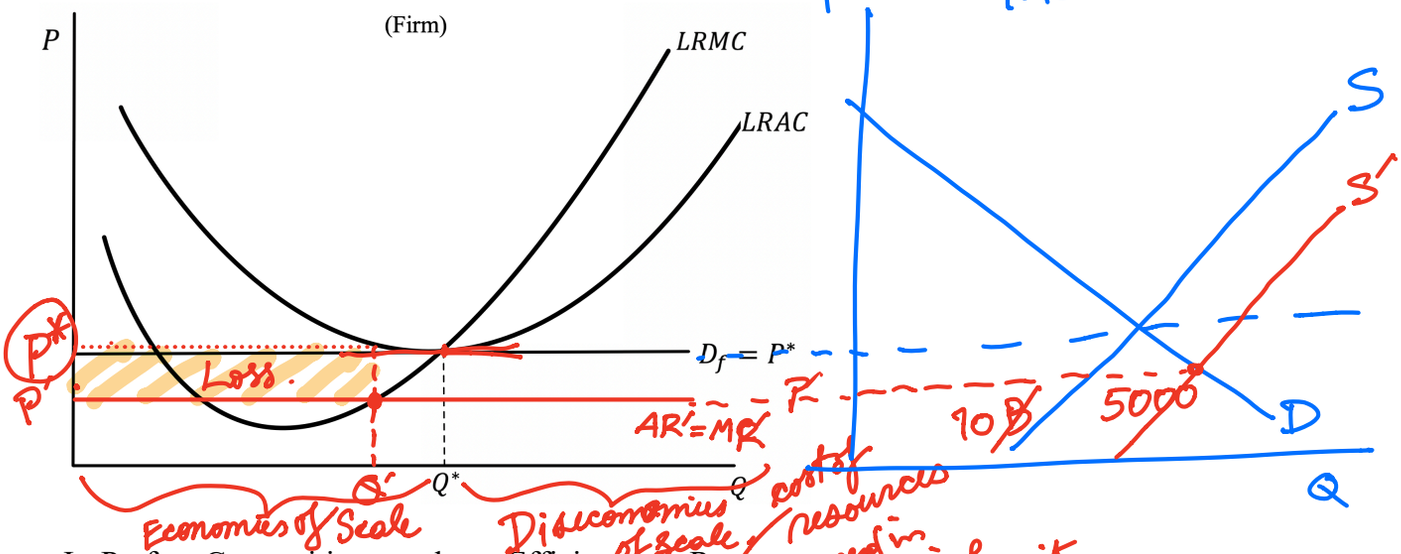
This business gives profit higher than doing anything else ⇒ New Comers.

Excess Profit = 0. ie the firm receives Normal Profit

- Suppose that initially the equilibrium is at price P_0. The firm receives an Excess Profit.
- This Excess Profit will attracts new comers into the market. This increases the market supply that causes the price to be lower to P_1.
- At P_1, there is still Excess Profit. Thus there continues to be more incomers and the market supply keeps increasing causing the price to be even lower.
- The equilibrium price in the Very Long Run will be at the price P^* equal to the minimum of $LRAC$ where the firm receives a Normal Profit.
- There will not be any new comer because everyone receive what they would have received in the next best thing they can do.



- **Equilibrium Conditions in the Very Long Run at** (P^*, Q^*)
  1. $P^* = LRMC(Q^*) = LRAC(Q^*)$
  2. $slope\ of\ LRMC(Q^*) > 0$



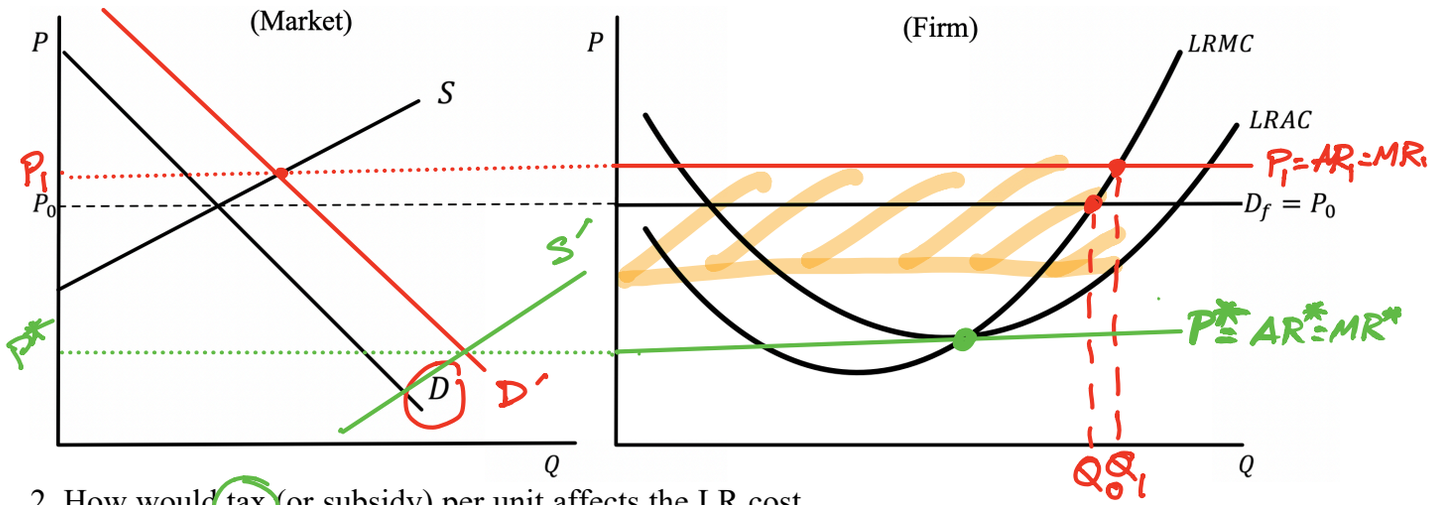
- In Perfect Competition, we have Efficiency in Resource Allocation and Efficiency in the Production.
  Efficiency in Resource Allocation: $P^* = LRMC(Q^*)$-- value of the last unit bought = cost of producing the last unit.
  Efficiency in Production: Every firm produces at Q^* where the $LRAC$ is minimum.

Question: If for some reason, there are still new comers even when every seller receives Normal Profit, how would the market react?

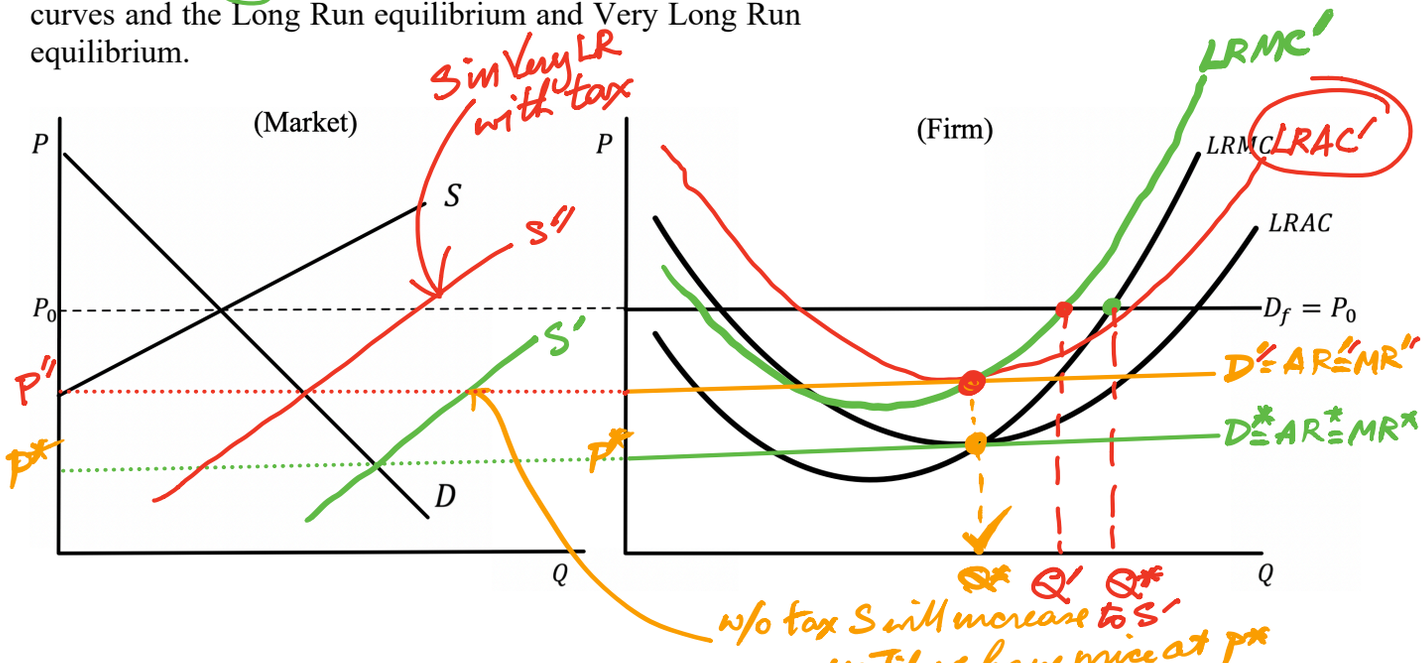
Change of Equilibrium in Long Run

∴ In Very LR, min LRAC will be the eq. price of the market.

1) If the market demand increases, how would this affect the equilibrium price in the Long Run (when there is no new entry or exit) and in the Very Long Run (when there is new entry and exit)?



2. How would tax (or subsidy) per unit affects the LR cost curves and the Long Run equilibrium and Very Long Run equilibrium.



w/o tax S will increase to S' until we have price at P^* so we produce at min of LRAC at Q^*

with tax S will increase to S'' until we have price P'' and produce at min LRAC' at same Q^*

Question: How would the market react if there is a better technology so that the cost of production reduces by 10%?

Question: If the government gives subsidy to each firm, how would the firm react if the subsidy given is
1) a single lump sum
2) s bahts/unit
What will be the impact of each of these subsidy on the market equilibrium price and quantity?