Monopoly

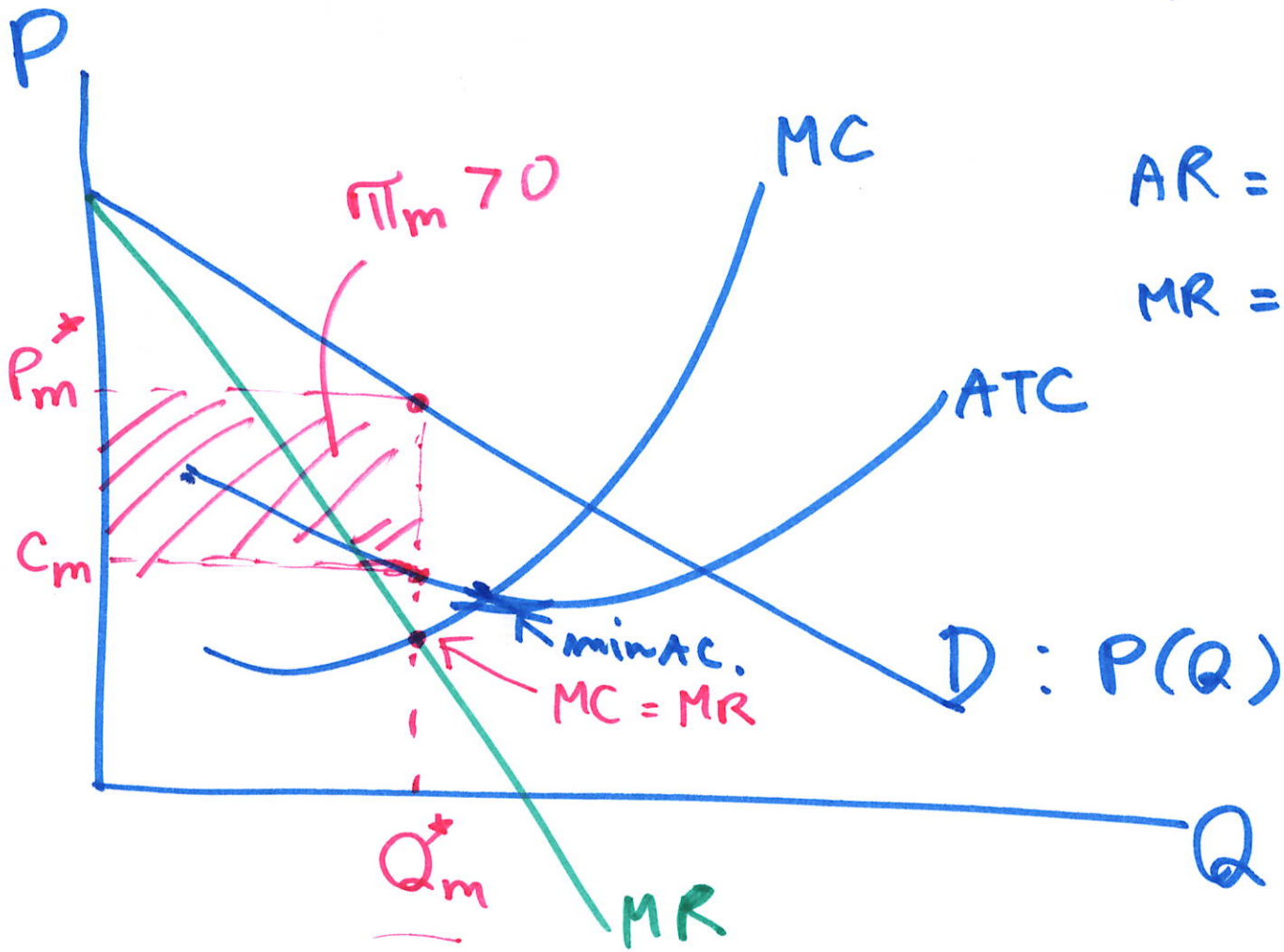
Ex. $P = 6 - Q$

$TR = P \cdot Q = (6-Q)Q$

$= 6Q - Q^2$

$AR = 6 - Q$

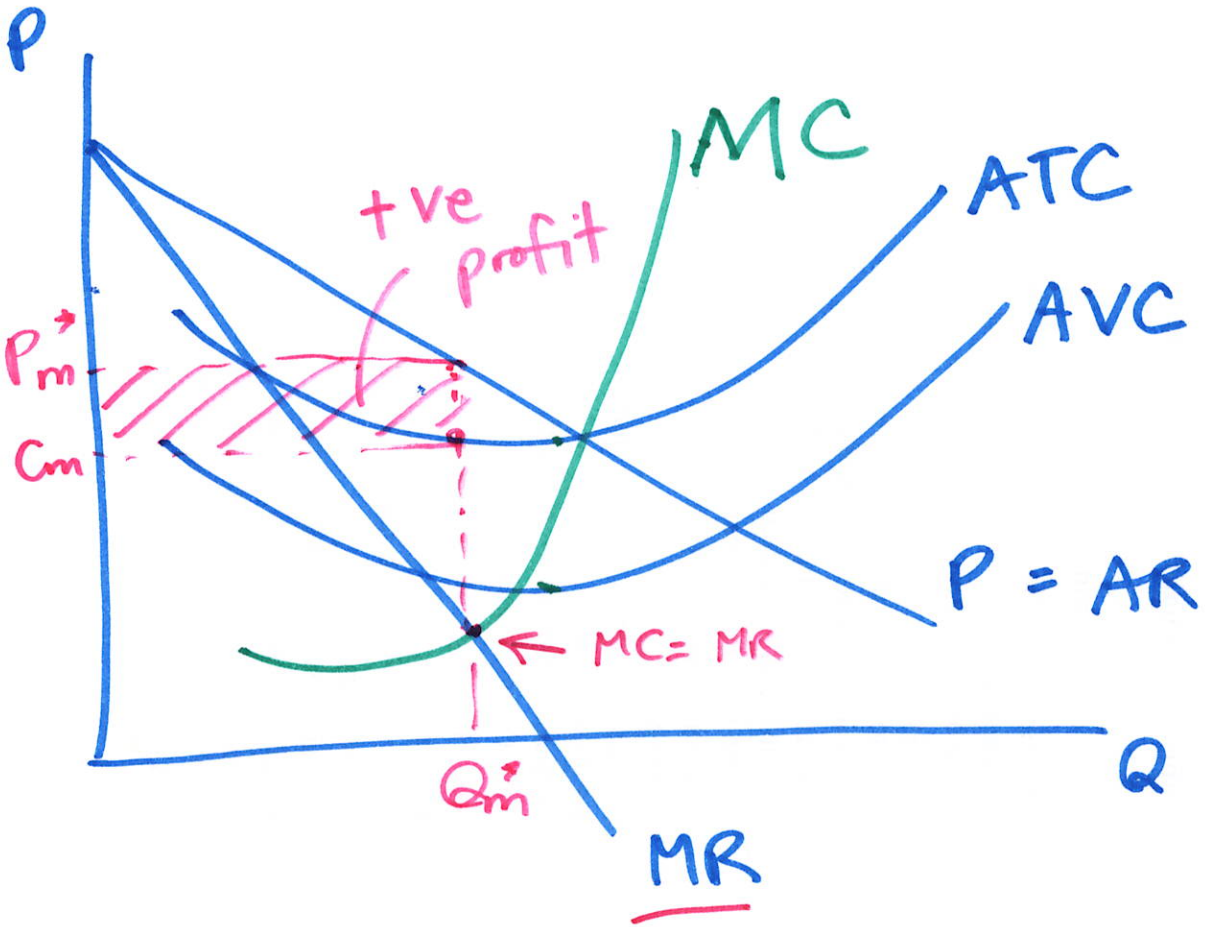
$MR = 6 - 2Q$



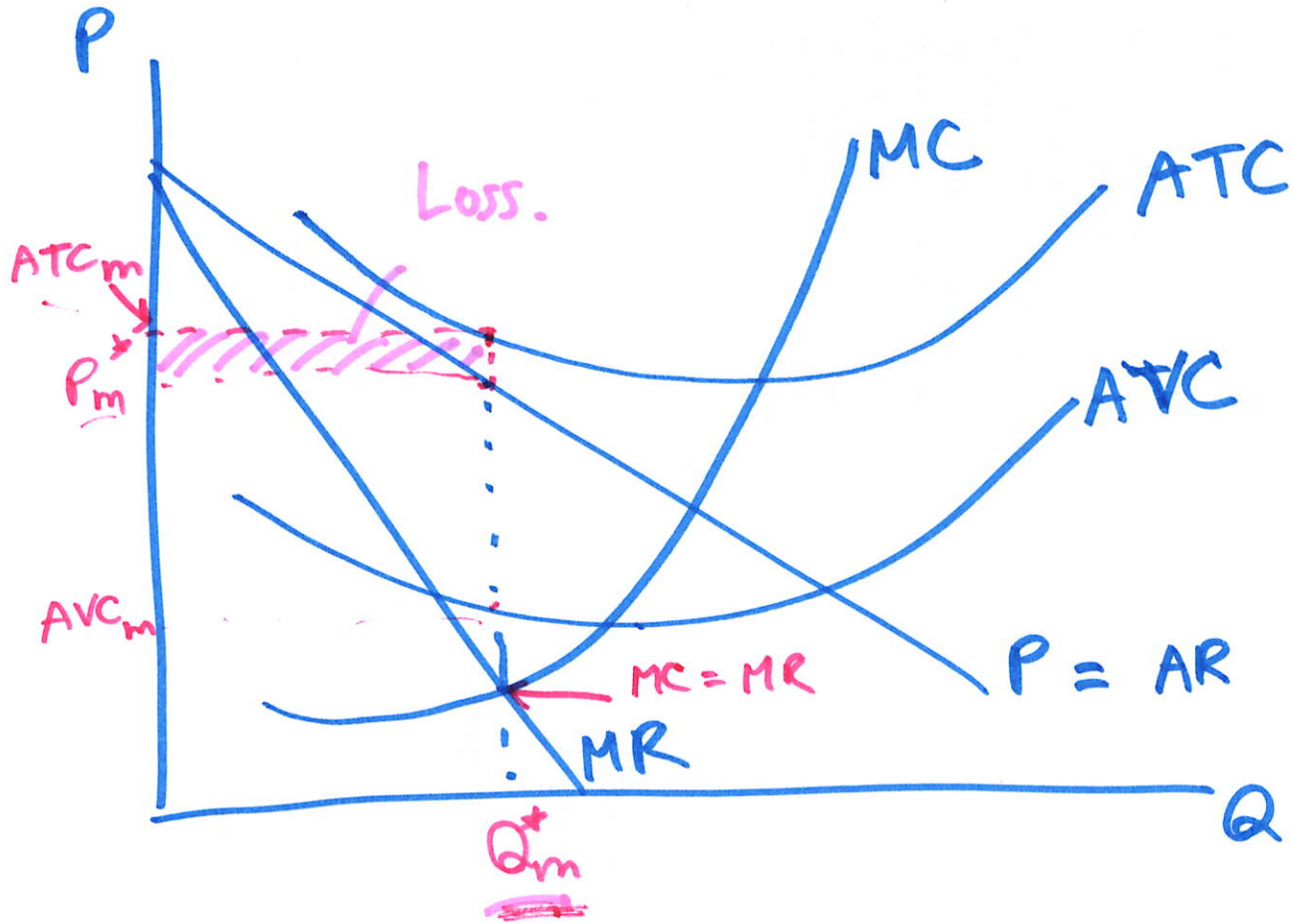
π-max condition is $MC = MR$.

Q: Would the monopolist stay in the market if it has negative profit in the short run?

↳ Yes, only as long as $P^* > AVC$.



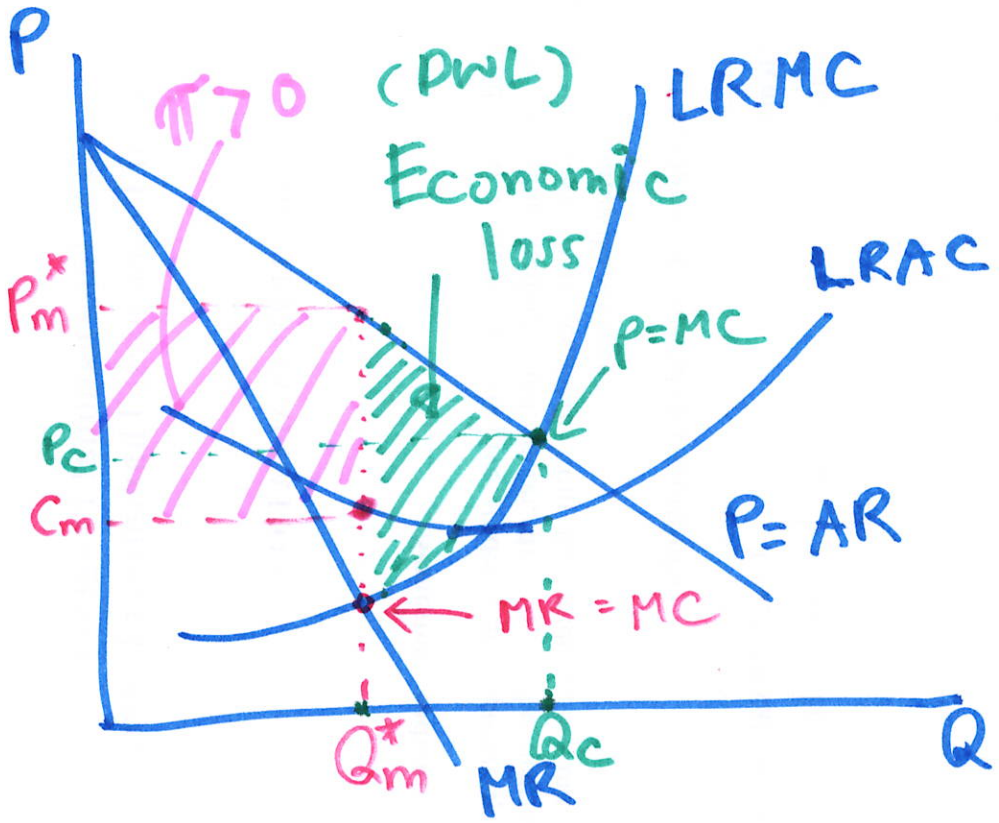
Case when P < ATC but P > AVC



$$\Pi = \underbrace{(P - ATC)}_{(-)} \times Q_m < 0$$

Long-run Eqm

Monopolist

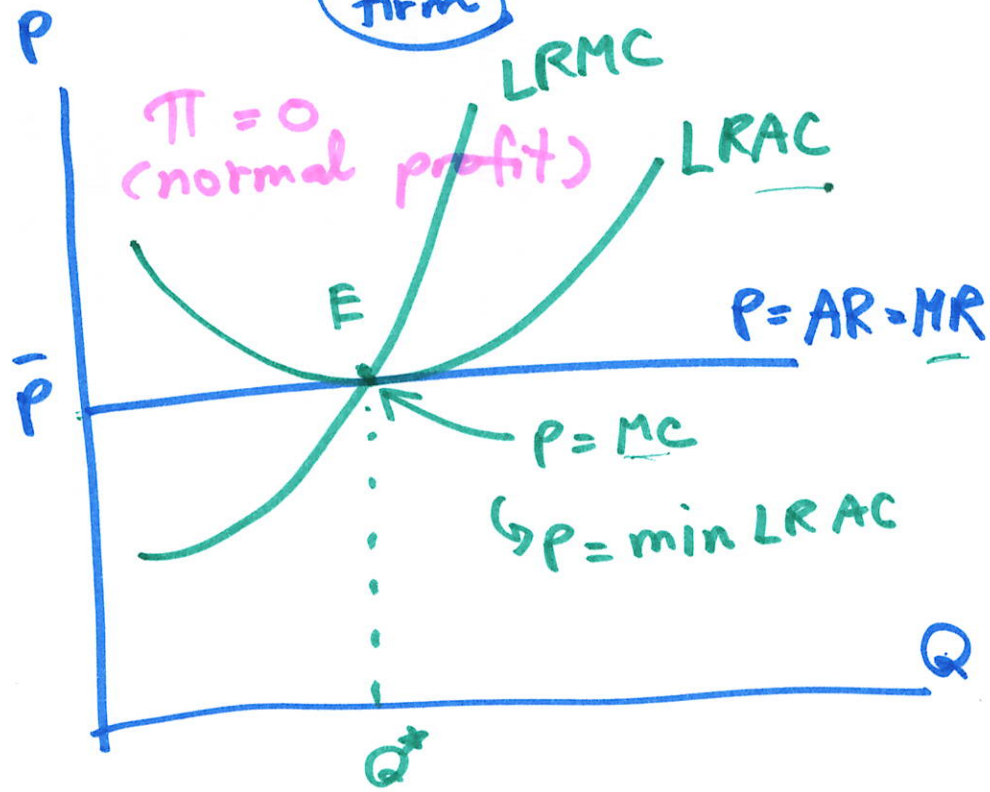


∴ At Q_m^*, there is economic (allocative) INefficiency (P > MC)

At Q_m^*, it's productive INefficient (P_m^* > min LRAC)

Perfect Competition

firm



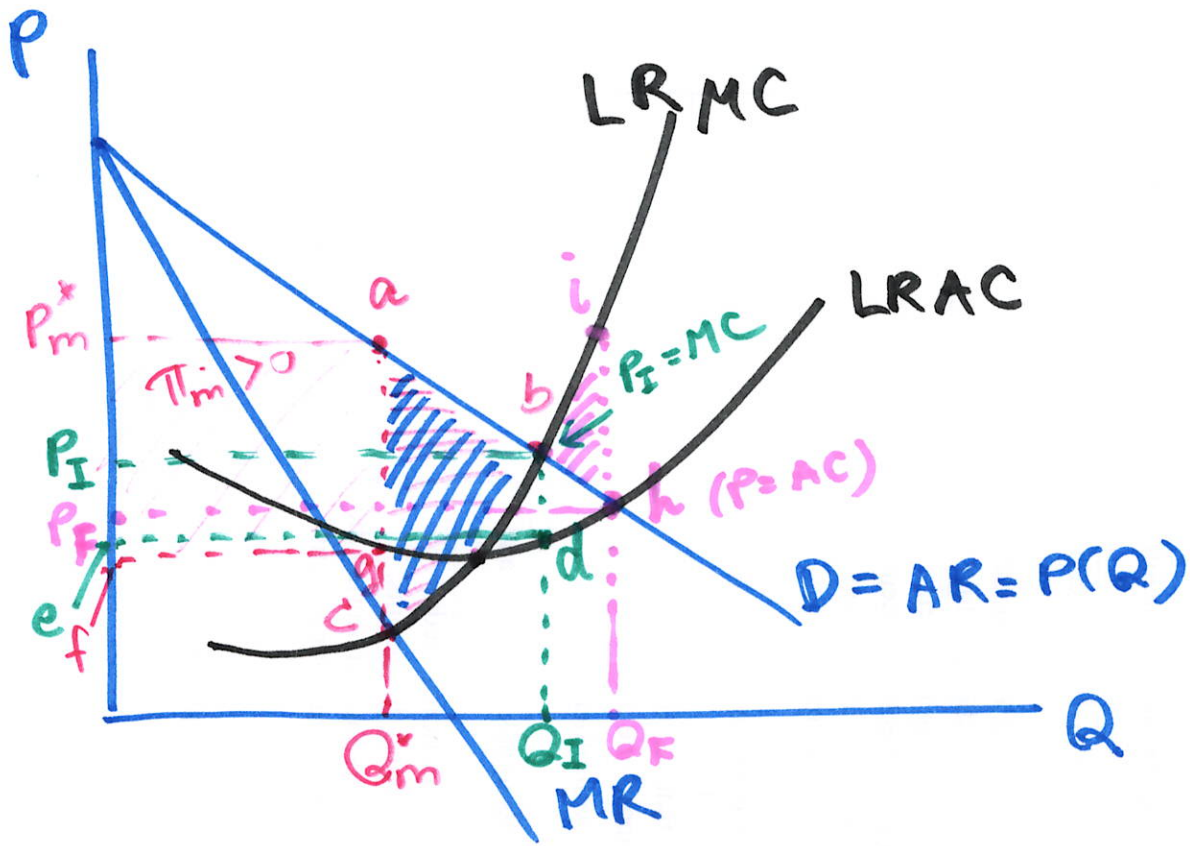
P = MC : Allocative Efficiency

P = min LRAC : Productive Efficiency

"Most-least cost".

Regulated Monopoly

Case 1. $P_I > P_F$ ($P_I = LRMC$; $P_F = LRAC$).

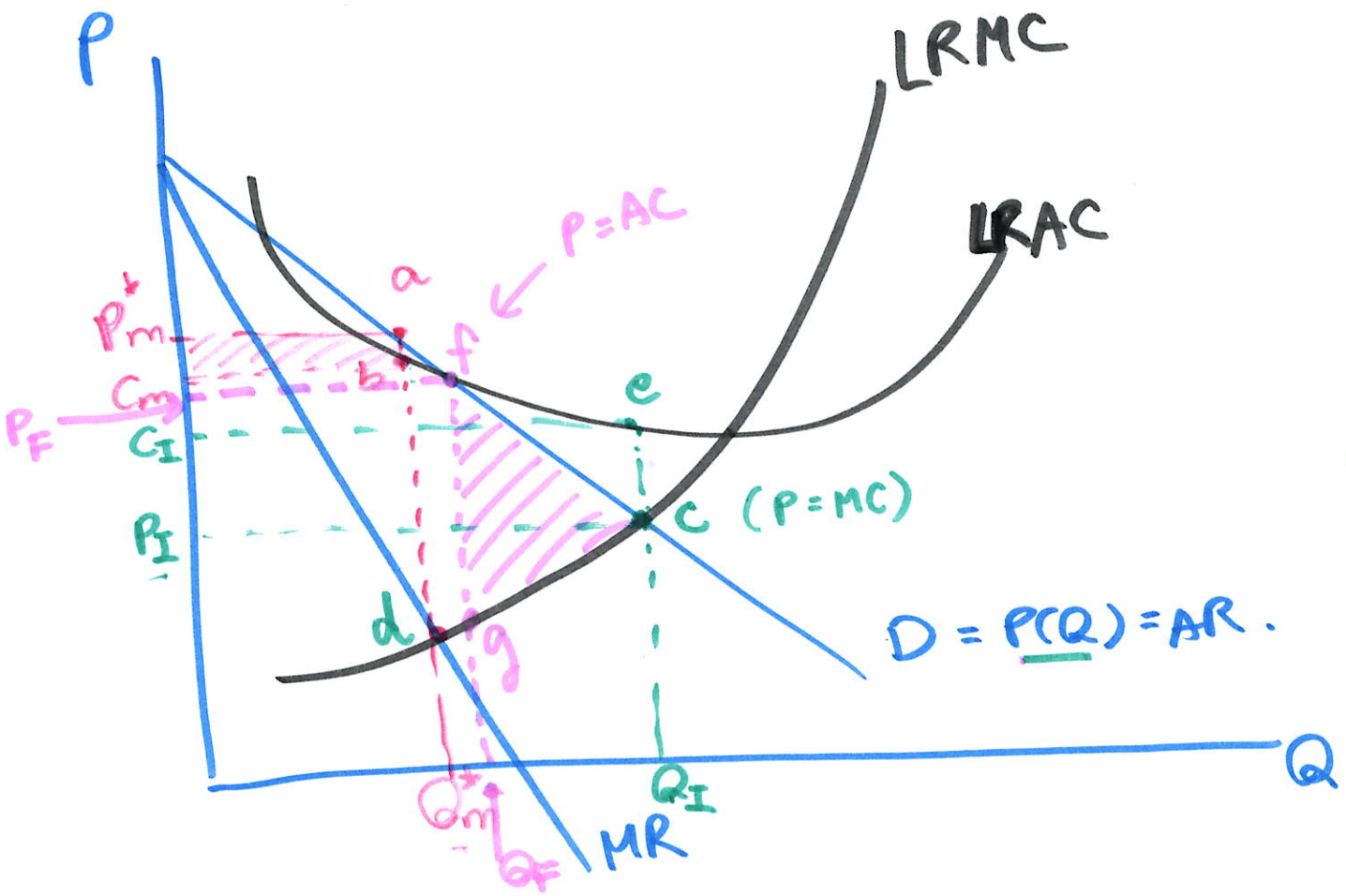


- Without regulation $MC = MR$
  (P_m^*, Q_m^*)
  → $\pi_m > 0$: $\pi_m = \square P_m^* acgf$
  → DWL = Area(abc)
  ∵ $P > MC$

- P_I . $(P = LRMC) \rightarrow Q_I$
  → DWL = 0
  → $\pi_I = \square P_I bde > 0$

- P_F $(P = LRAC) \rightarrow Q_F$
  → $\pi_F = 0$ (∵ P = AC)
  → Welfare loss = Area(bih)
  ∵ $P < MC$

Case II : $P_F > P_I$



- Without regulation
  $MC = MR \Rightarrow P_m^* \& Q_m^*$
  $\rightarrow \pi_m = \square P_m^* a b c_m > 0$
  $\rightarrow$ Welfare loss
  = Area (acd)

- P_I ($P = LRMC$) $\rightarrow Q_I$
  $\rightarrow$ No welfare loss
  ($\because P = MC$)
  $\rightarrow \pi_I = \square c_I e c P_I < 0$
  ($P < AC$)

- P_F ($P = LRAC$) $\rightarrow Q_F$
  $\rightarrow \pi_F = 0$
  $\rightarrow$ Welfare loss
  = Area (fcg)