

Week 8

Market structure

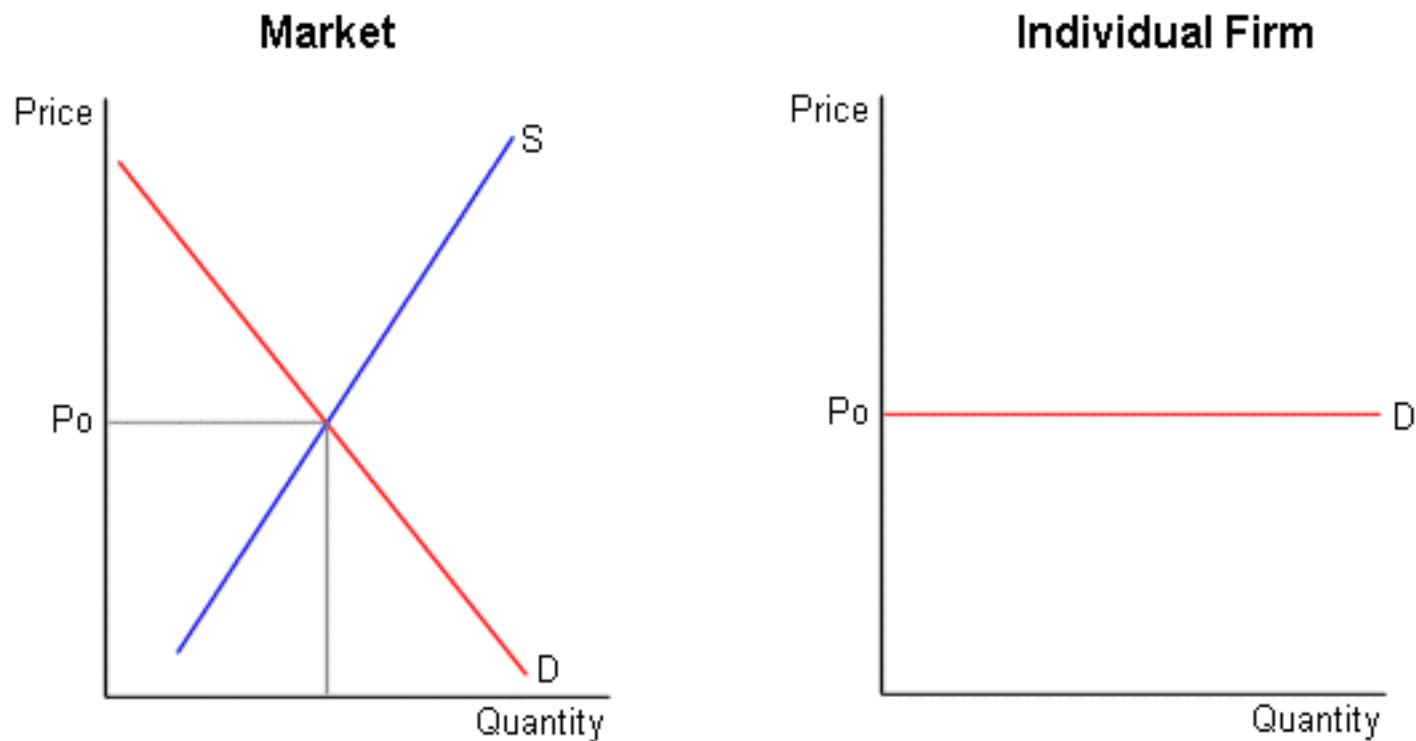
Perfect competition

Perfectly competitive market

- many buyers and sellers,
- identical (also known as homogeneous) products,
- no barriers to either entry or exit, and
- buyers and sellers have perfect information.

Demand curve facing a single firm

- no individual firm can affect the market price
- demand curve facing each firm is perfectly elastic



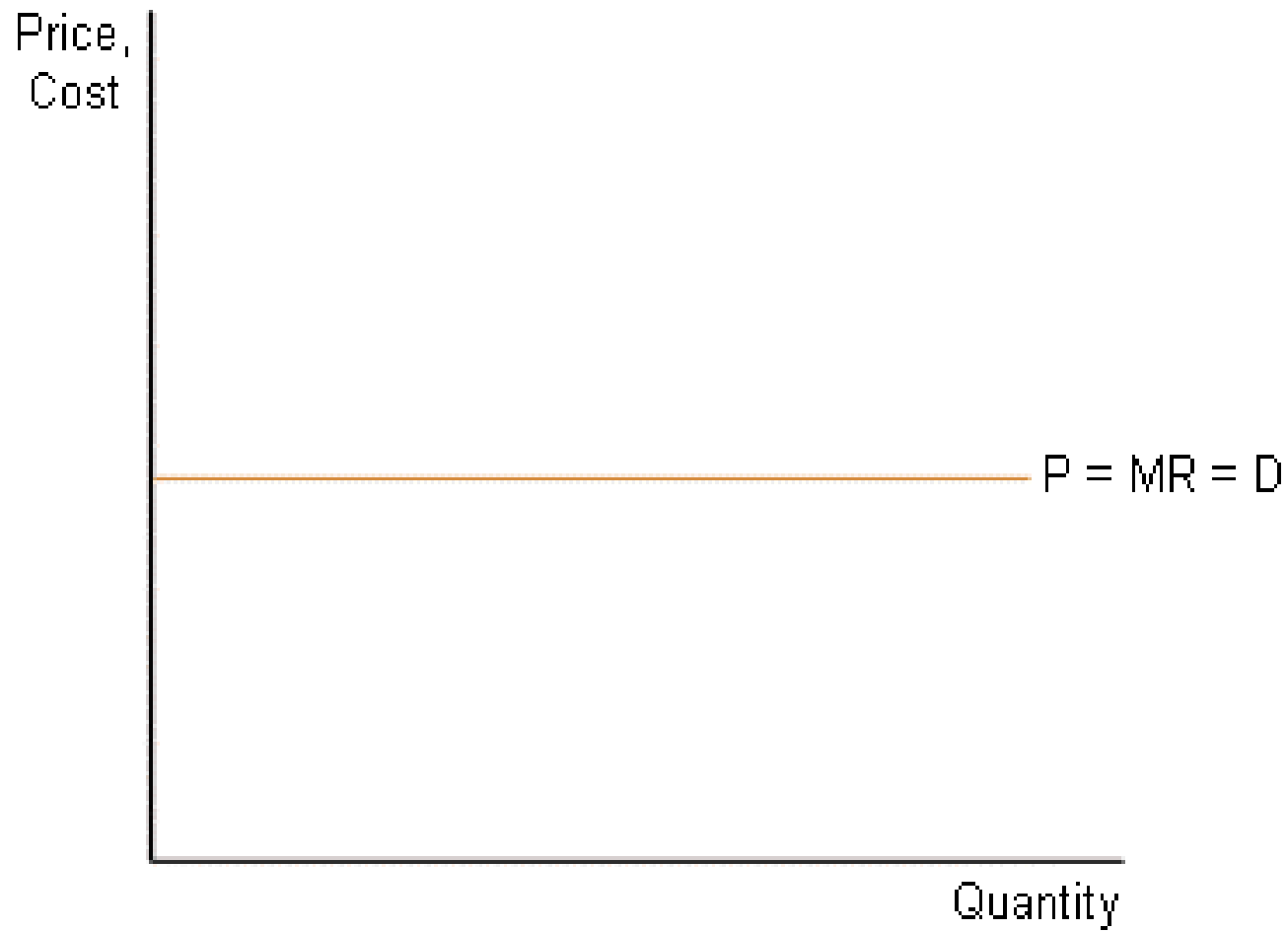
Profit maximization

- produce where $MR = MC$

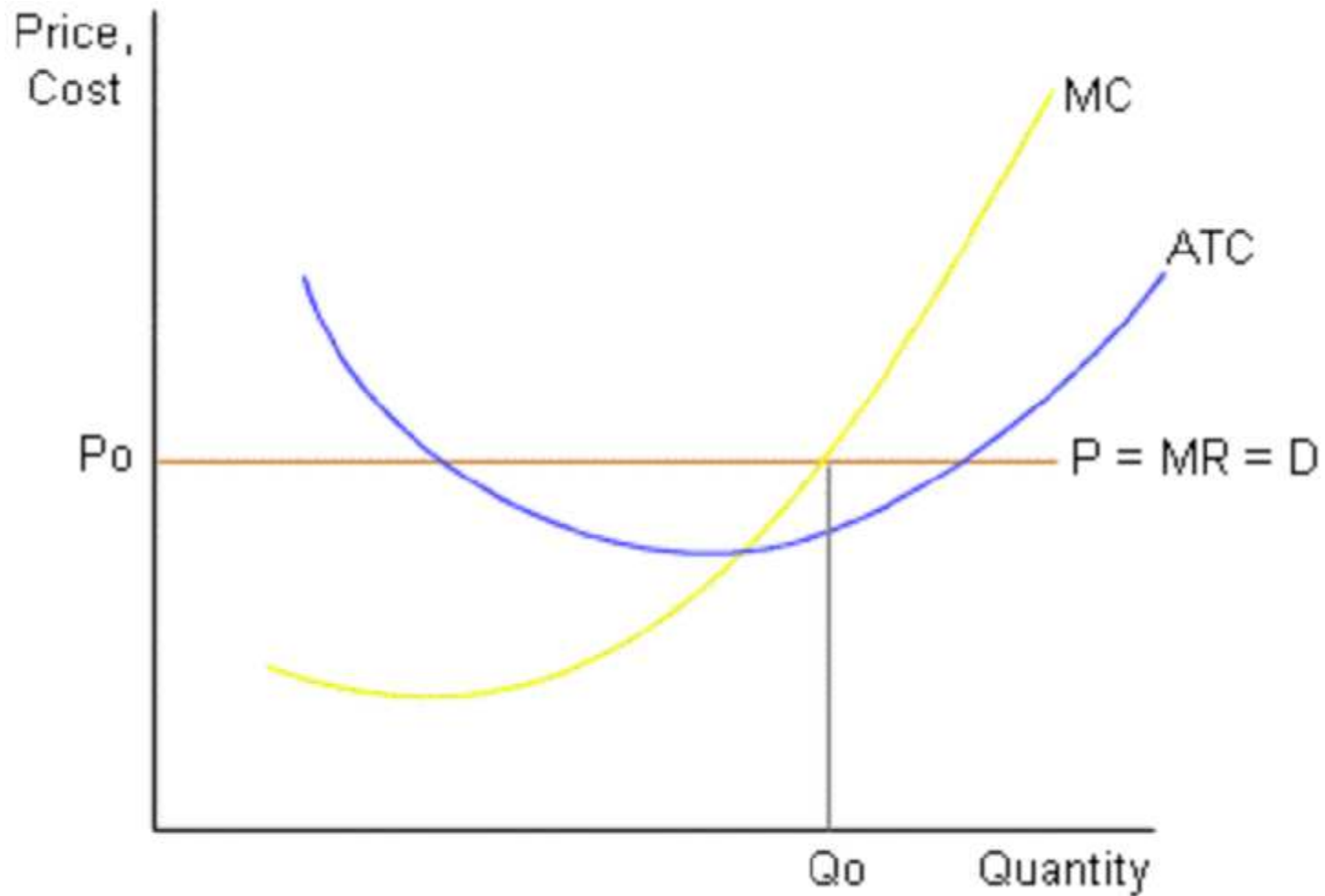
$$\text{Marginal revenue} = \frac{\Delta TR}{\Delta Q}$$

$$\text{Marginal cost} = \frac{\Delta TC}{\Delta Q}$$

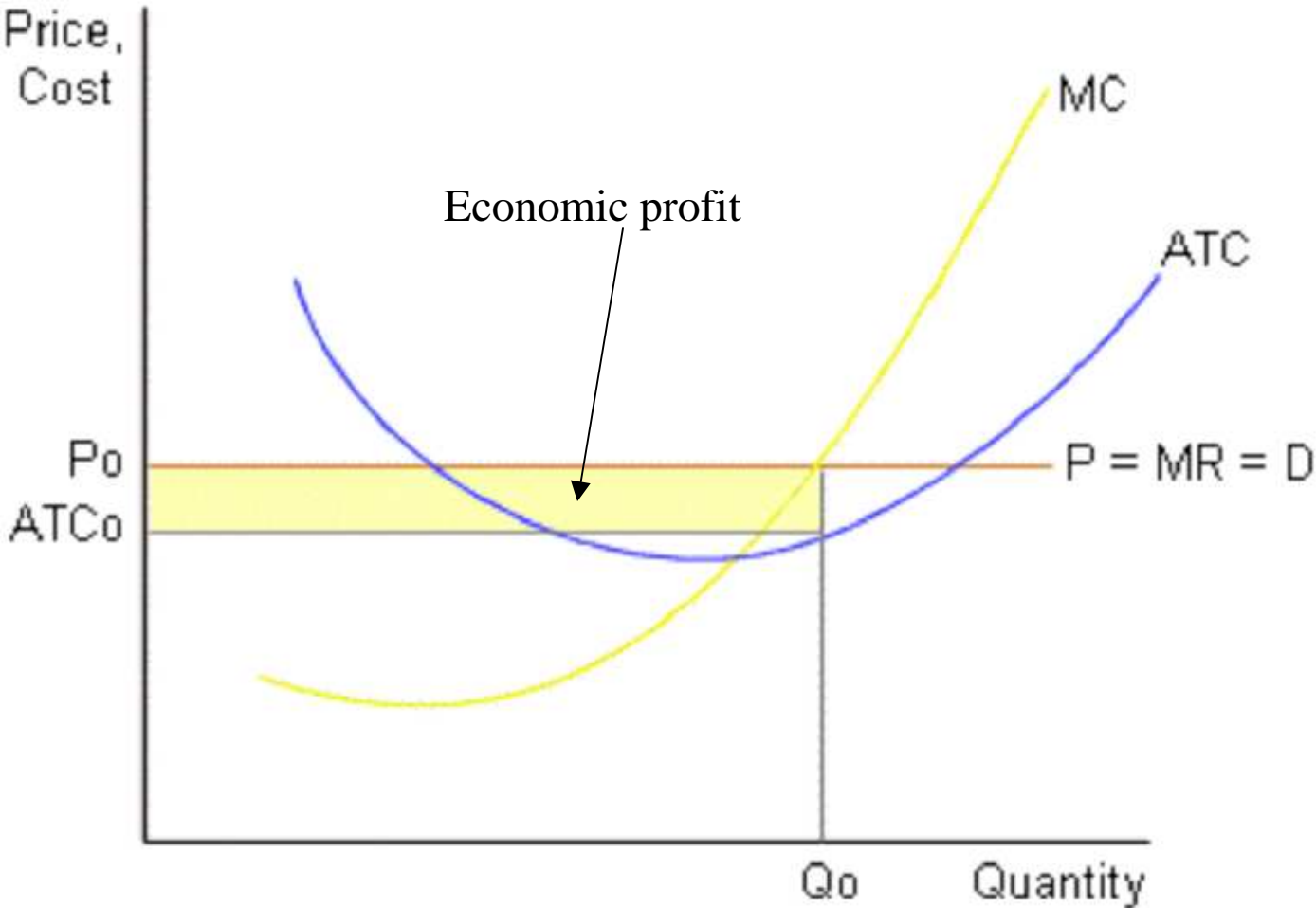
$$P = MR$$



Profit-maximizing level of output



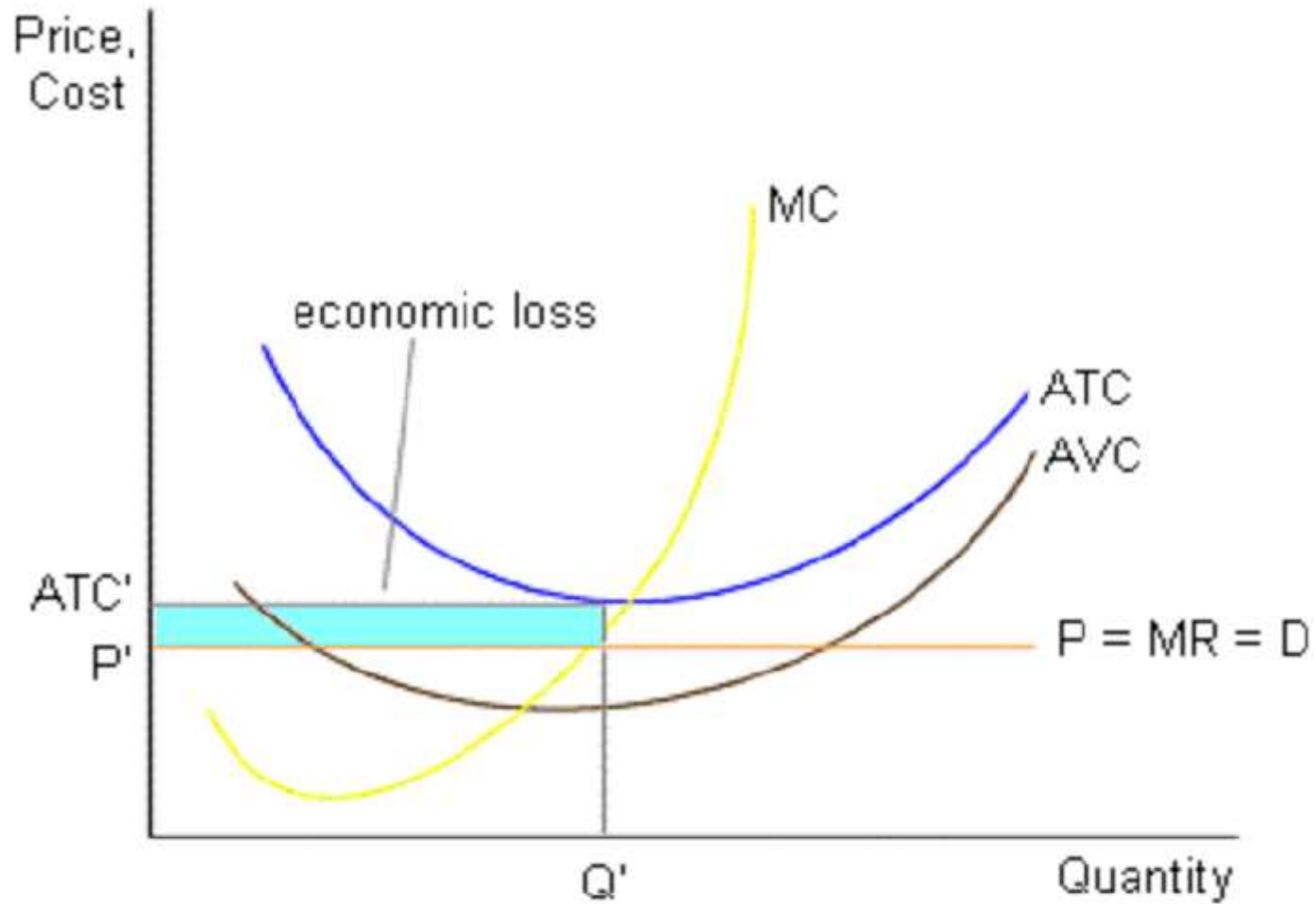
Economic Profits > 0



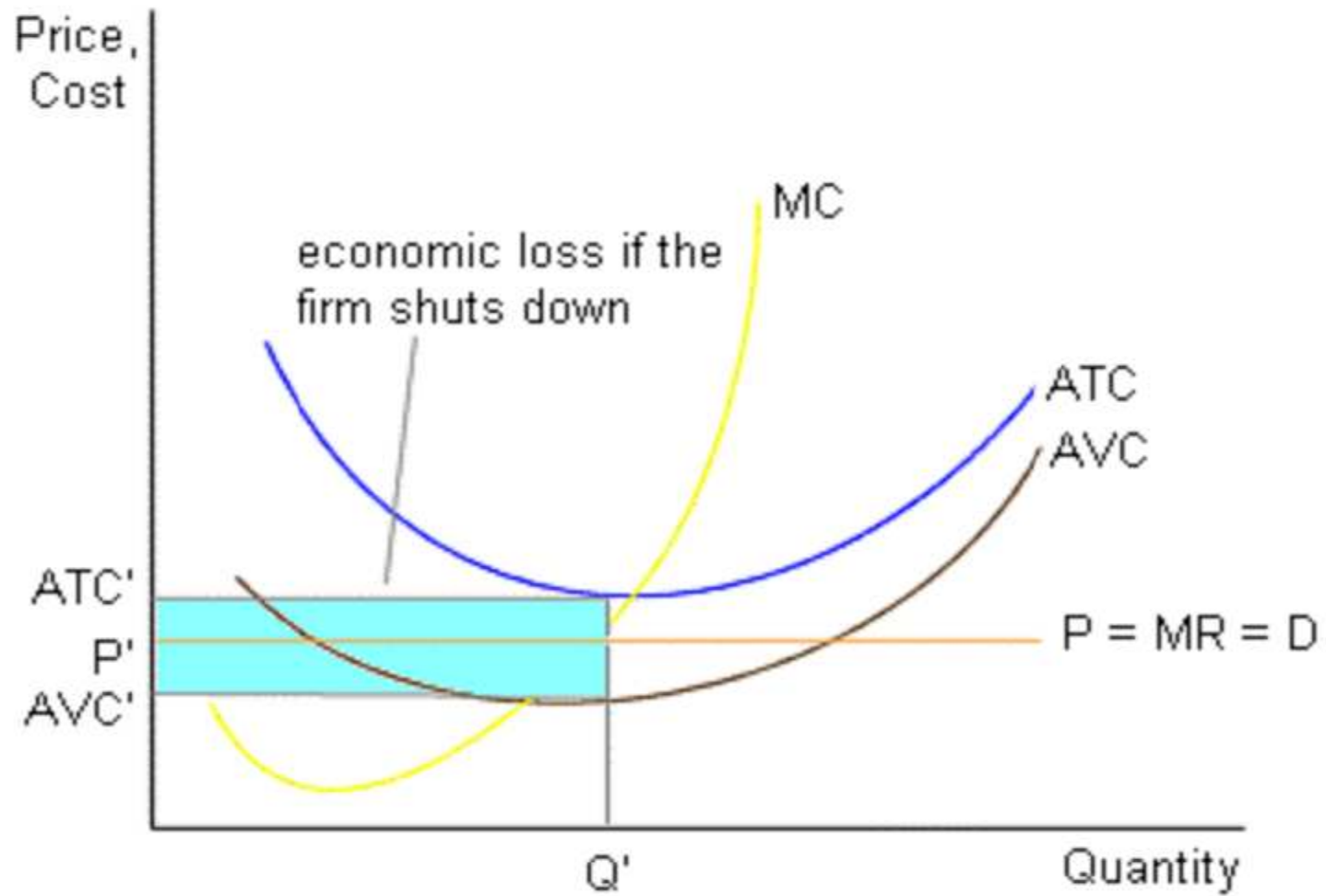
Loss minimization and the shut-down rule

- Suppose that $P < ATC$. Since the firm is experiencing a loss, should it shut down?
- Loss if shut down = fixed costs
- Shut down in the short run only if the loss that occurs where $MR = MC$ exceeds the loss that would occur if the firm shuts down (= fixed cost)
- Stay in business if $TR > VC$. This implies that $P > AVC$. Shut down if $P < AVC$.

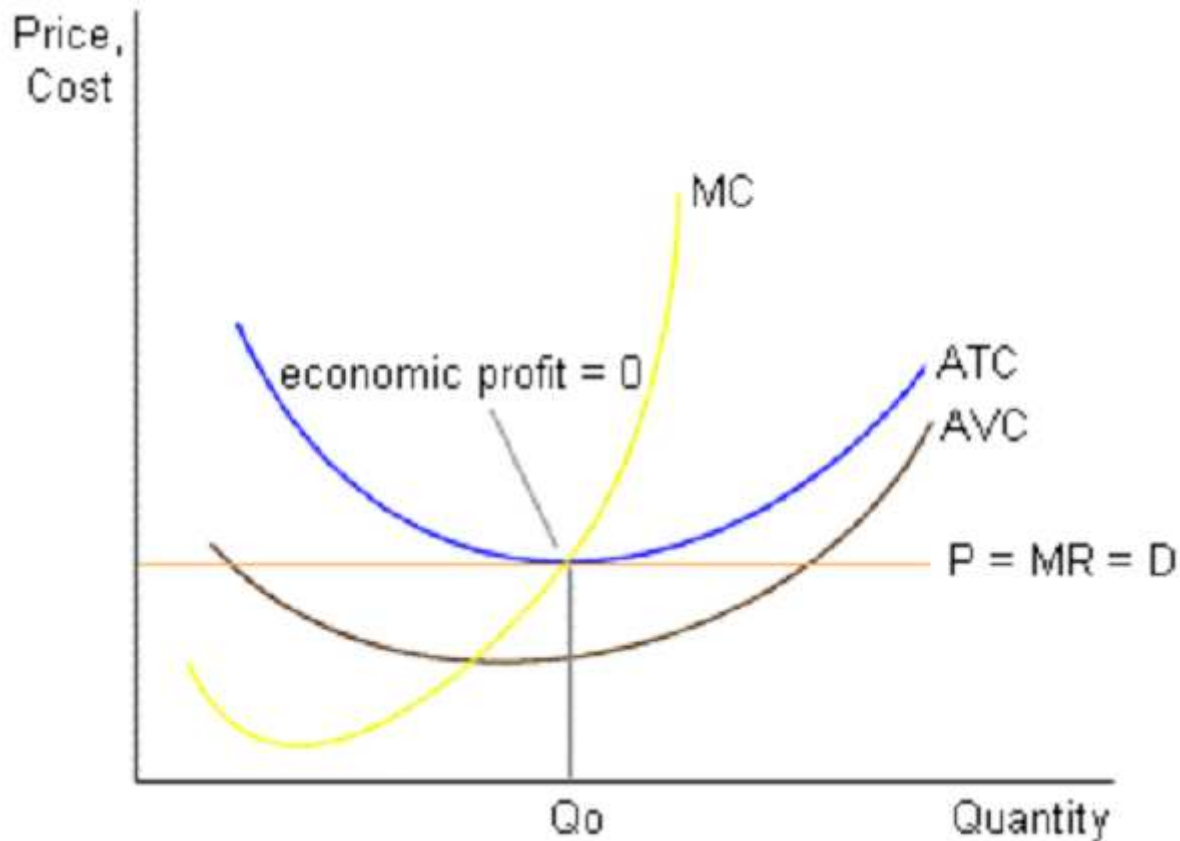
Economic loss ($AVC < P < ATC$)



Loss if shut down

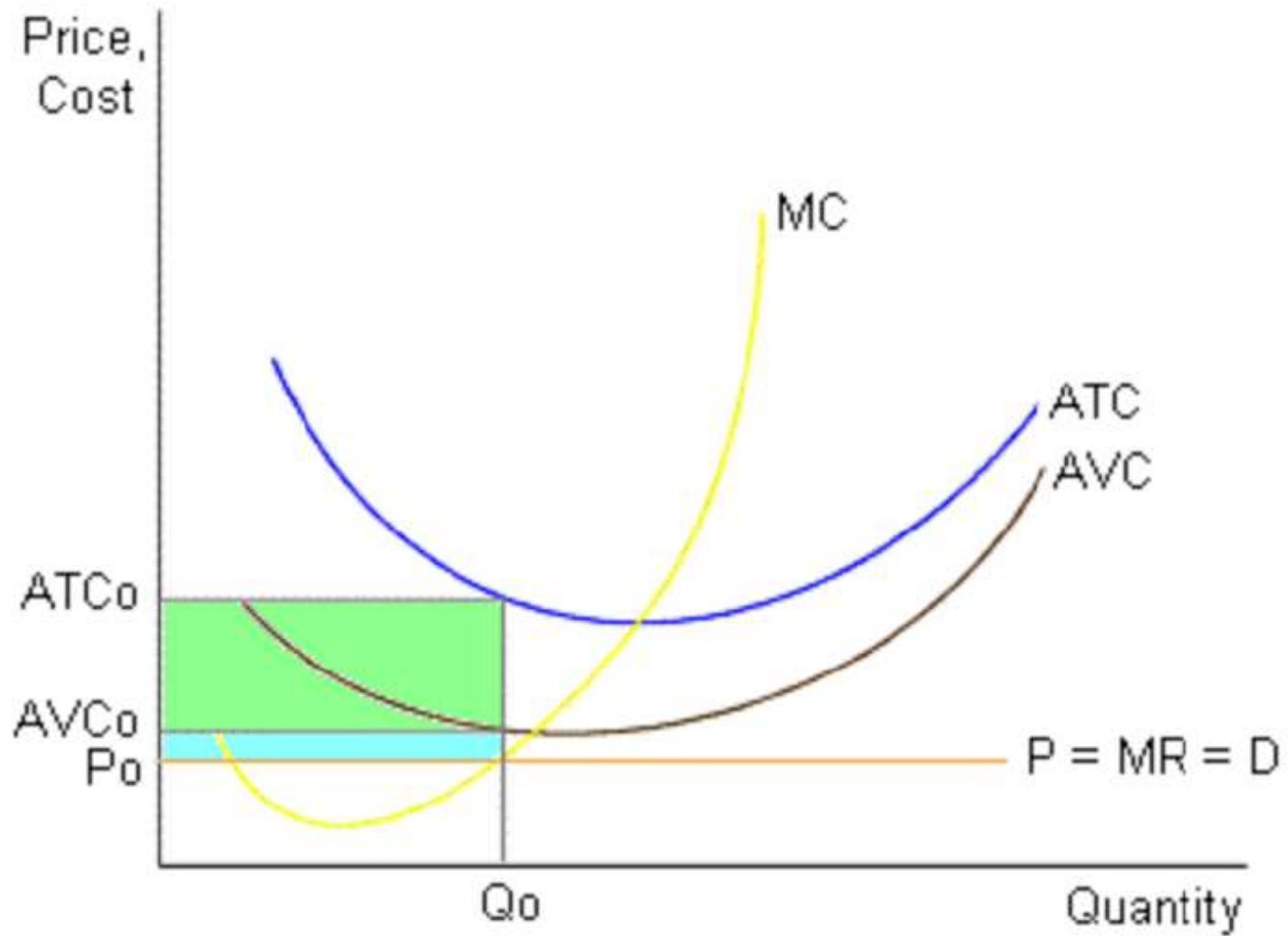


Break-even price

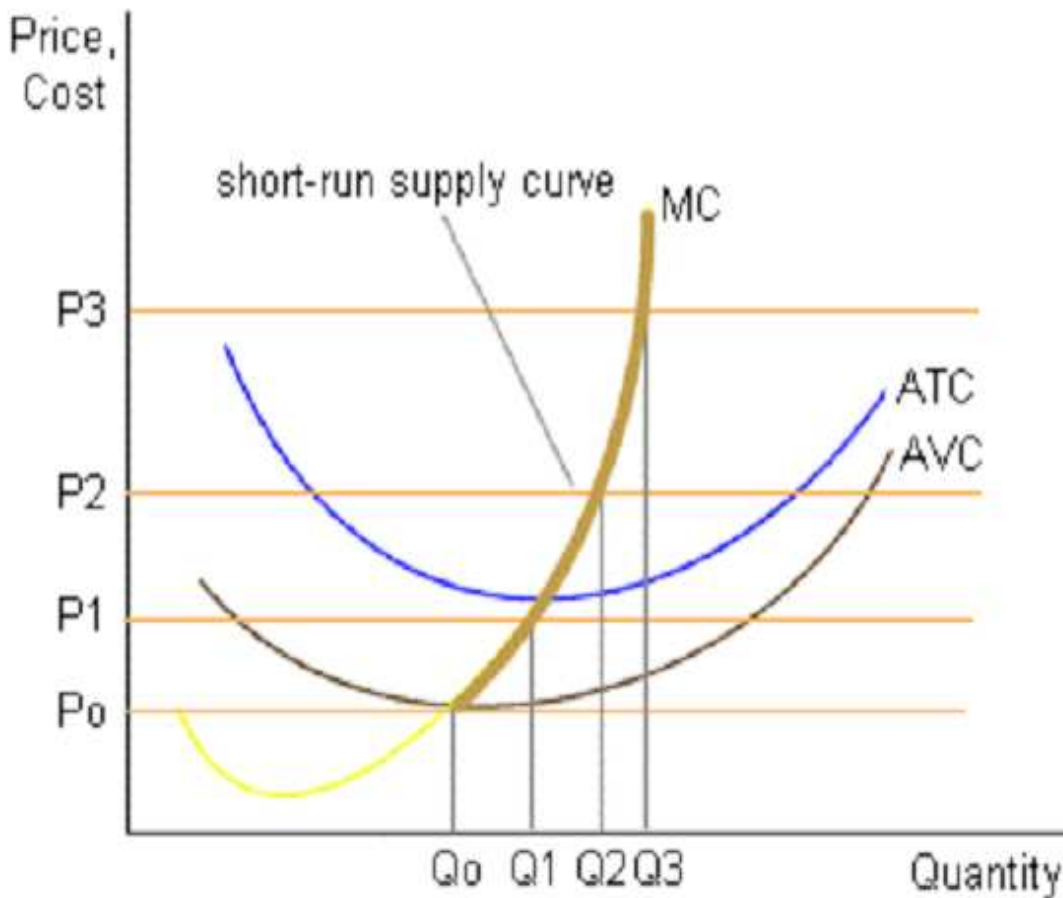


- If price = minimum point on ATC curve, economic profit = 0. Owners receive normal profit. No incentive for firms to either enter or leave the market.

$$P < AVC$$



Short-run supply curve



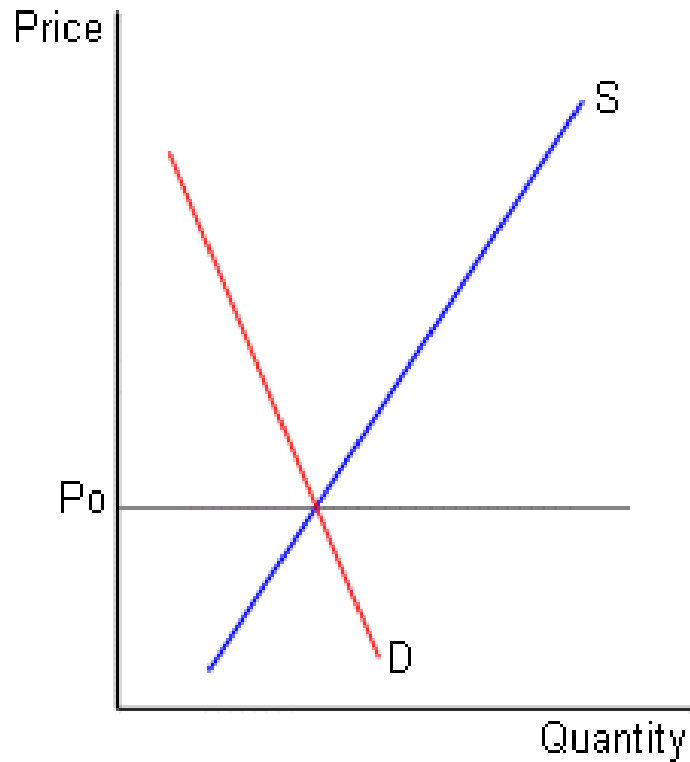
A perfectly competitive firm will produce at the level of output at which $P = MC$, as long as $P > AVC$.

Long run

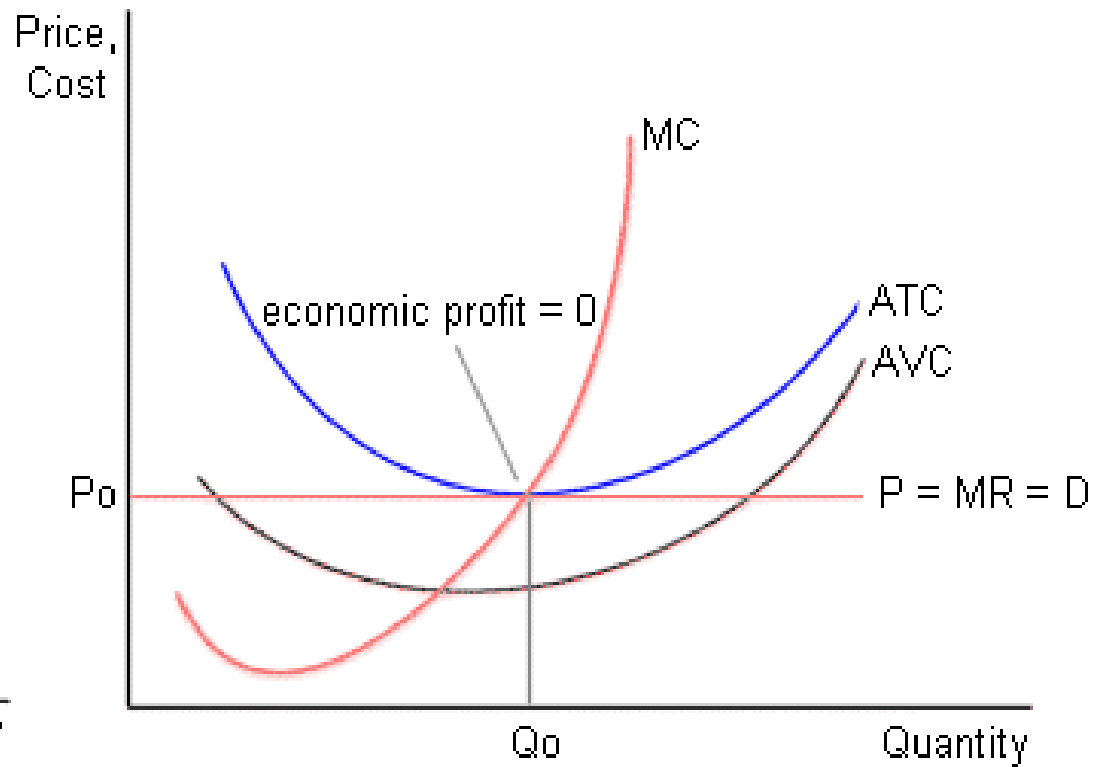
- Firms enter if economic profits > 0
 - market supply increases
 - price declines
 - profit declines until economic profit equals zero (and entry stops)
- Firms exit if economic losses occur
 - market supply decreases
 - price rises
 - losses decline until economic profit equals zero

Long-run equilibrium

Market



Individual Firm



Long-run equilibrium and economic efficiency

- Two desirable efficiency properties (assuming no market failure)
 - $P = MC$ (Social marginal benefit = social marginal cost)
 - $P = \text{minimum ATC}$

Consumer and producer surplus

- Consumer surplus = net gain from trade received by consumers ($MB > P$ for consumers up to the last unit consumed)
- Producer surplus = net gain received by producers ($P > MC$ up to the last unit sold)

Consumer and producer surplus

- Gains from trade = consumer surplus + producer surplus

