



Unit 2
Supply in a Competitive Market (Ch. 8)
10/9

ECON 323 – MICROECONOMIC THEORY – DR. STRICKLAND



Introduction

For some output level, firms choose the cheapest input mix

- Cost minimization problem

How much output should the firm produce?

- This decision is driven by the desire to maximize profit

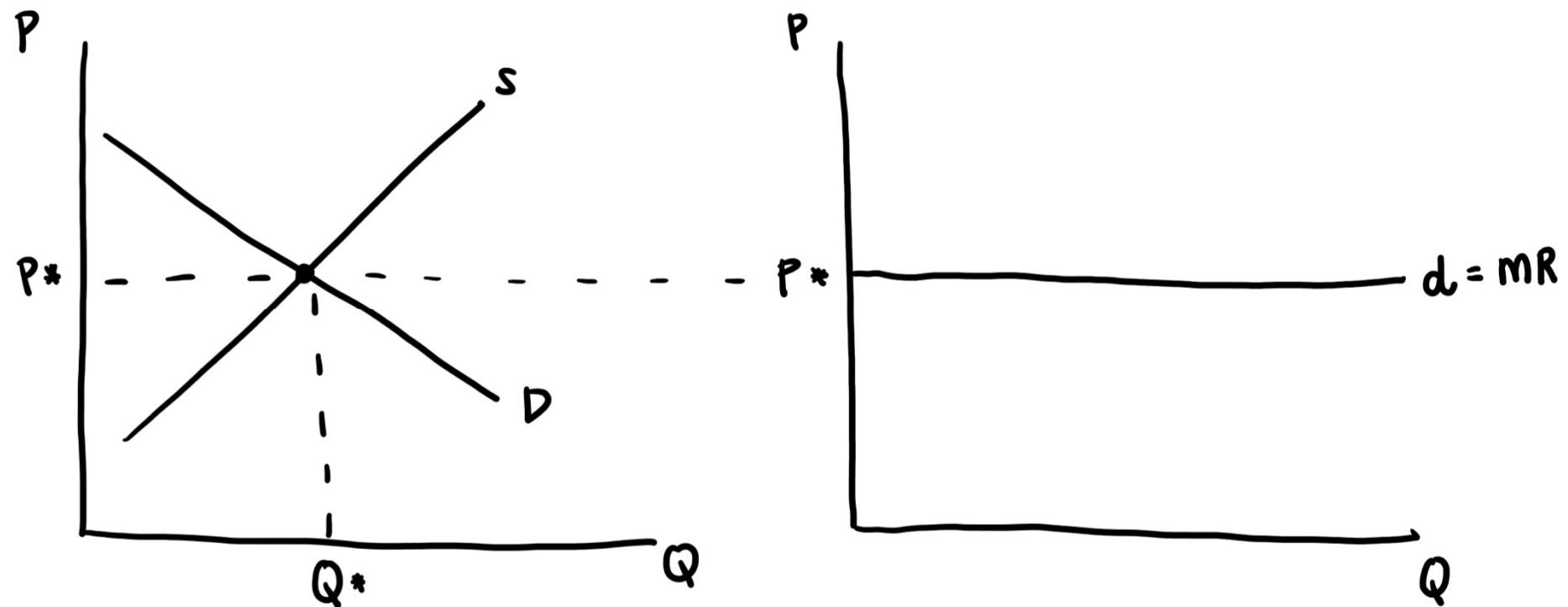
Profit maximizing behavior depends on a firm's market structure

- This chapter focuses on perfect competition

Demand curve for perfectly competitive firms



If a firm must sell its product at the same price, no matter the quantity produced, what does its demand curve look like?





Profit maximization

Goal: maximize profit

$$\text{ELON PROFIT} - \Pi = \underbrace{\text{TR}}_{P \times Q} - \underbrace{\text{TC}}_{\text{VC} + \text{FC}} - \text{ECON. COST}$$

* Π MAX RULE: $MR = MC$

*FOR PC FIRM: $P = MR$

$\Rightarrow \Pi$ MAX: $P = MC$

Profit maximization

3 SCENARIOS
OF ATC:

ATC₁: $\Pi > 0$

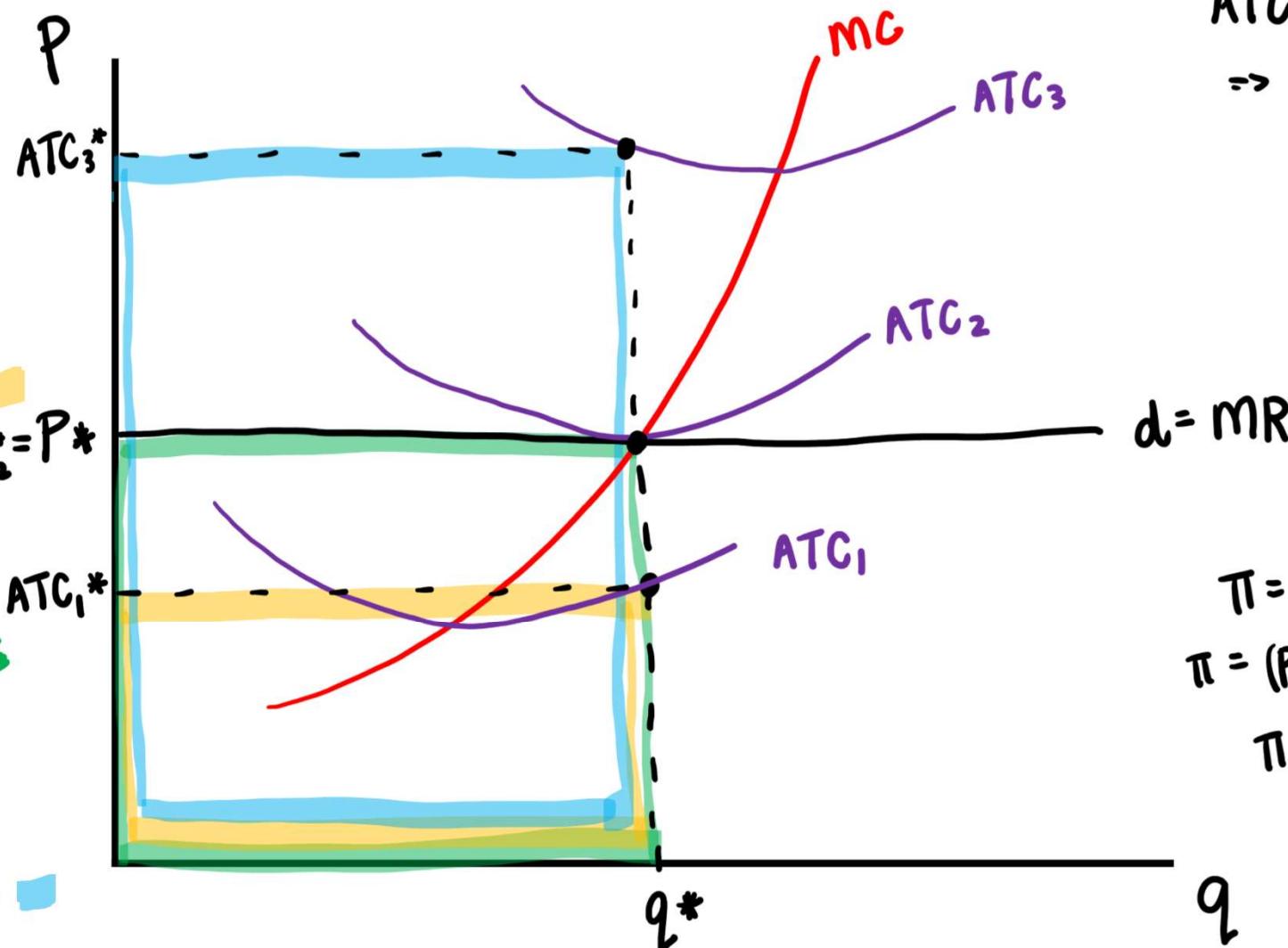
$TR = \blacksquare$ $TC = \blacksquare$
 $ATC_2^* = P^*$

ATC₂: $\Pi = 0$

$TR = \blacksquare$ $TC = \blacksquare$

ATC₃: $\Pi < 0$

$TR = \blacksquare$ $TC = \blacksquare$



$$ATC = \frac{TC}{Q}$$

$$\Rightarrow Q \cdot ATC = TC$$

$$\Pi = TR - TC$$

$$\Pi = (P \times Q) - (ATC \times Q)$$

$$\Pi = (P - ATC) \times Q$$



Short-run shutdown decision

What happens if profit is negative? Should a firm shut down?

LR: $\Pi < 0 \Rightarrow$ SHUT DOWN (EXIT)

SR: $\Pi = TR - VC - FC$
 ↓
 SUNK

$TR < VC \Rightarrow$ SHUT DOWN (STOP PRODUCING)

$$P \times Q < VC$$

$$\Rightarrow P < \frac{VC}{Q} \Rightarrow P < AVC$$

Short-run shutdown decision & firm supply curve

