



B.E. International Program

Faculty of Economics, Thammasat University



EE 211 Principle of Microeconomics (Semester 1/2020)

Quiz 5

1. Suppose a competitive firm maximizes its profit by selling Q^* 500 units of its product at the given market price of \$7 per unit.

a. (2 points) State the profit-maximizing condition for this firm.

$$MR = P = MC \quad \Rightarrow \quad MC = P = 7$$

b. (6 points) Suppose that at the profit-maximizing level of output, the firm's total cost (TC) is \$2,500 and its total variable cost is (TVC) is \$2,000. Calculate the firm's total fixed cost (TFC), average total cost (ATC), and average variable cost (AVC) at this equilibrium quantity.

$$\begin{aligned} TC &= TFC + TVC \\ 2500 &= TFC + 2000 \\ TFC &= 500 \end{aligned} \quad \left| \quad \begin{aligned} ATC &= \frac{2500}{500} = \$5 \\ AVC &= \frac{2000}{500} = \$4 \end{aligned}$$

c. (2 points) At the given market price of \$10 per unit and the costs given in (b), calculate the firm's profit. $\bar{P} = 10$

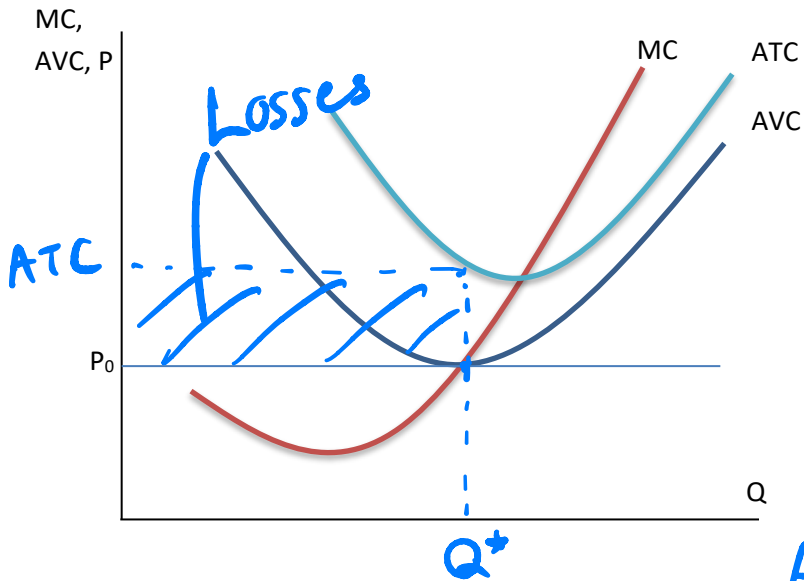
$$\pi^* = (P - ATC) \times Q = (10 - 5) \times 500 = 2500$$

d. (2 points) Suppose now that there is an increase in market supply, and the equilibrium market price decreases to \$5. Should the firm continue selling its good in the market, or should it shut down? Justify your answer.

$$P = ATC > AVC$$

\therefore Yes, it should continue selling.

2. In a perfectly competitive market, suppose that a firm's marginal cost (MC) and average variable cost (AVC) and average total cost (ATC) curves are given below.



- a. (2 points) Suppose that the equilibrium market price is at P_0 . Indicate the profit-maximizing level of output in the above diagram. Does this firm make any profit? Illustrate.

No, firm makes loss.

- b. (6 points) If the government gives a subsidy of s baht/unit to the firm, everything else constant, how will the marginal cost (MC) and average variable cost (AVC) of this firm change? Draw another diagram to illustrate these changes, if any. Assuming the market price is still fixed at P_0 , how will the profit-maximizing output level and the corresponding profit level change?

$Q^* \uparrow$

