

### Chapter Outline

1. Short-run Profits and Losses
  - a. Maximizing Profits
  - b. Minimizing Losses
  - c. Short-run Supply Curve
2. Economies and Diseconomies of Scale
3. Long-Run Adjustments
  - a. Short-run Profits
  - b. Short-run Losses
  - c. Long-run Profits

### Short-run Profits and Losses

$$\pi = TR - TC$$

$$\pi = Q^*(P - AC)$$

Show Graphically: Maximizing Profits

Show Graphically: Minimizing Losses

A firm will shut-down in the short-run if:

1. Losses > TFC
2.  $P < AVC$

### Economies and Diseconomies of Scale

**Economies of Scale** – increasing the firms scale (production capacity) results in lower costs per unit produced.

Ex: automobile production, bus

**Constant Returns to Scale** – increasing the firms scale (production capacity) has no effect on costs per unit produced.

**Diseconomies of Scale** – increasing the firms scale (production capacity) results in higher costs per unit produced.

Ex: bureaucratic inefficiency

### Long-Run Adjustments

Show Graphically: Short-run Profits under Economies of Scale  $\rightarrow \pi = 0$

- Firms will enter as long as there are profits to be made
- Firms will expand as long as there are economies of scale to be realized

Show Graphically: Short-run Losses under Constant Returns to Scale  $\rightarrow \pi = 0$

- Firms will exit as long as there are losses

### Long-run Profits

$$P^* = SRMC = SRAC = LRAC \text{ and } \pi = 0$$