Chapter 22

Supply: The Costs of Doing Business

Economics, 7th Edition

Boyes/Melvin

- Total fixed costs:
  - Rent, salaried employees, contracts

- Total Variable Costs:
  - Hourly employees, inputs, utilities

REVENUES, COSTS, AND PROFIT

HOW FIRMS MAKE DECISIONS

Firms produce with the goal of maximizing profit. A firm's production decision is based on cost-benefit analysis.

TYPES OF PROFIT

Profit = total revenue – total cost

Accounting profit = total revenue – accounting cost

Normal profit = total revenue – firm's opportunity cost = 0

- Normal profit ("zero economic profit") is the minimum profit a firm needs to stay in business in the long-run
- Remember that a firm can make normal profit while still taking in accounting profit
- Economic profit is any profit above normal profit

REVENUE AND COSTS

Total revenue = price x quantity

Costs in Action!
The next time you head to the movies, think about these costs: **Accounting Cost** The price of the movie ticket **Opportunity Cost** The benefit of studying economics instead **Economic Cost** The sum of these two costs

Output and Resources

- Supply is the quantities of output that sellers are willing and able to offer for sale at every price.

- To determine how much to supply at any given price, sellers must know how much it costs to supply each quantity.

Diminishing Marginal Returns

The law of diminishing marginal returns:

"Add more of one resource to fixed resources, and eventually marginal product will fall."

Marginal Costs

LAW OF AVERAGES AND MARGINALS

1. When marginal cost is below average total cost (ATC), average total cost is decreasing
2. When marginal cost is above ATC, ATC is increasing
3. The marginal cost curve intersects the AVC and ATC curves at their minimums

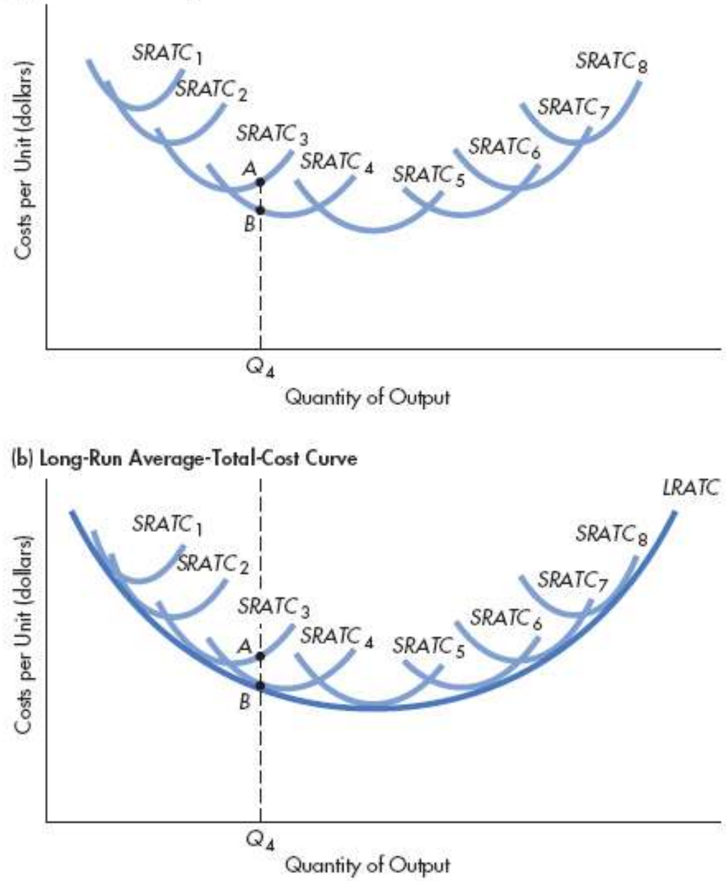
Economies of Scale and Long-Run Cost Curves

- In the **long run**, a firm has many sizes to choose from.
- The **short run** requires that scale be fixed— only one or a few resources can be changed.

Short-Run and Long-Run Average-Cost Curves

FIGURE 3 The Short-Run and Long-Run Average-Total-Cost Curves

(a) Short-Run Average-Total-Cost Curves



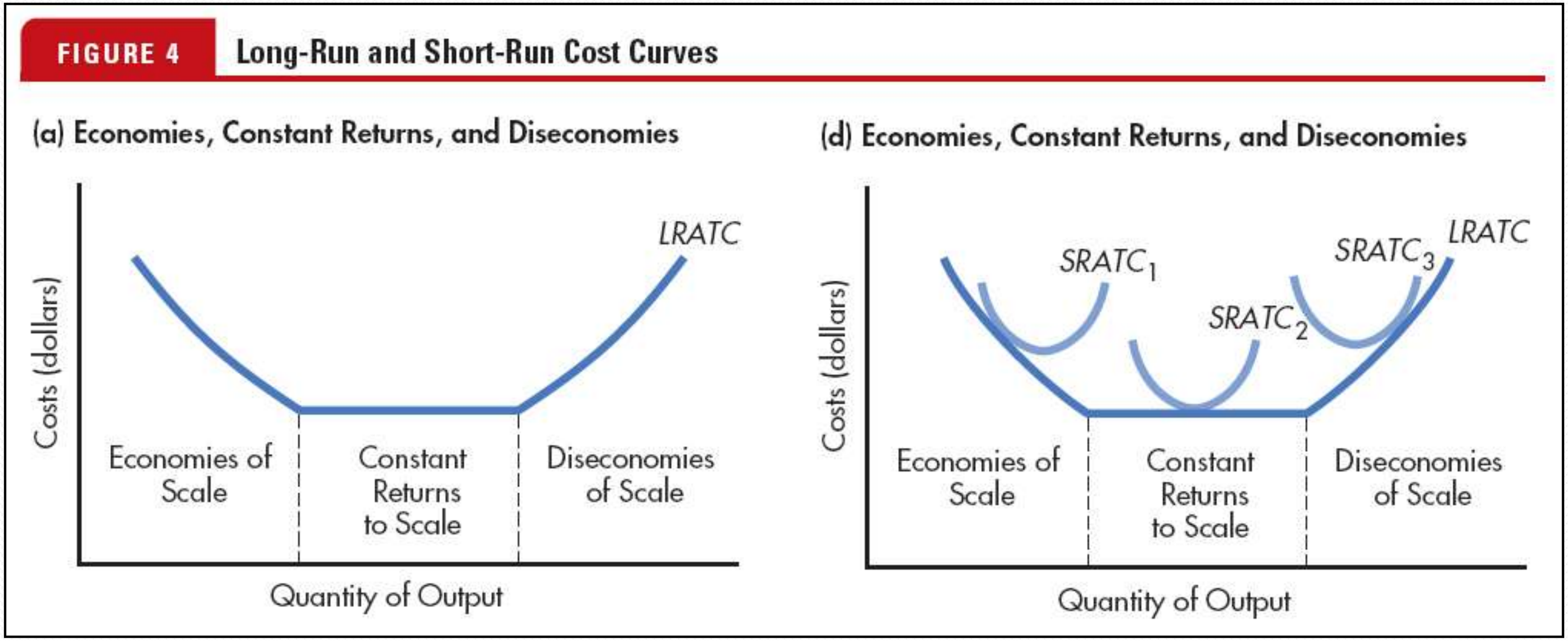
The long-run average-total-cost curve represents the lowest costs of producing any level of output when all resources are variable. Short-run average-total-cost curves represent the lowest costs of producing any level of output in the short run, when at least one of the resources is fixed. Figure 3(a) shows the possible *SRATC* curves facing a firm. Figure 3(b) shows the *LRATC* curve, which connects the minimum cost of producing each level of output. Notice that the *SRATC* curves need not indicate the lowest costs of producing in the long run. If the short run is characterized by $SRATC_3$, then quantity Q_4 can be produced at point *A*. But if some of the fixed resources are allowed to change, managers can shift to $SRATC_4$ and produce at point *B*.

Long-Run Average Total Cost

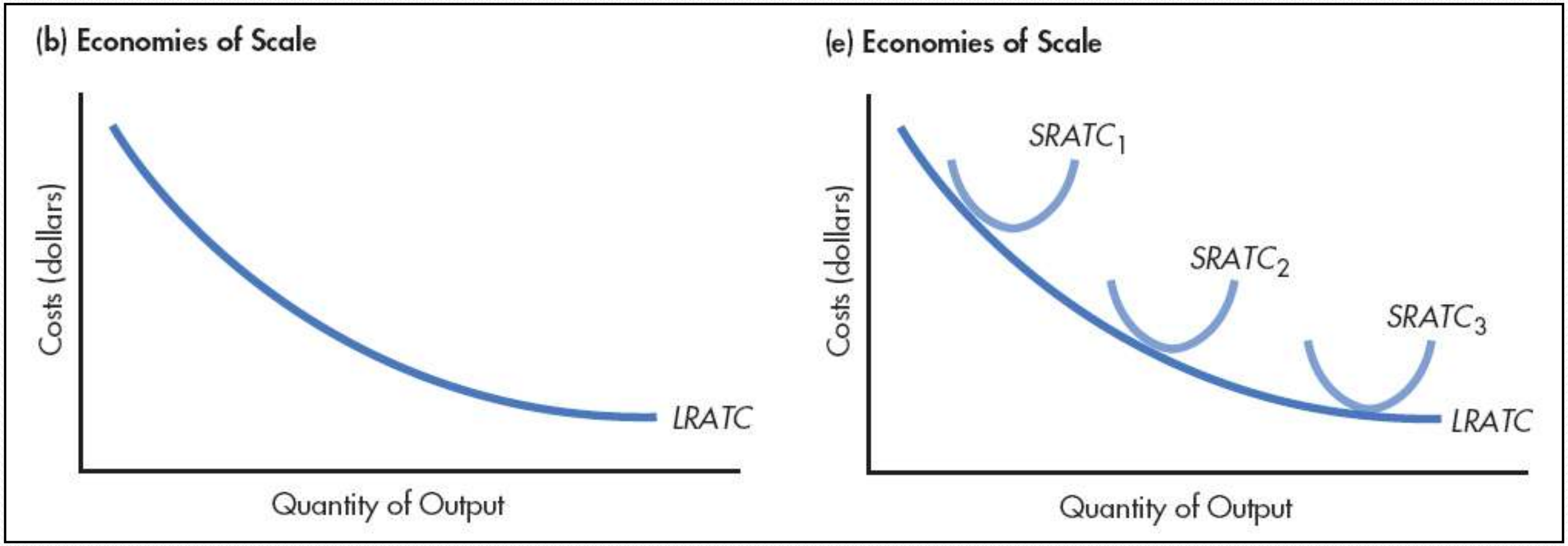
- **Long-run average total cost (*LRATC*):** the lowest-cost combination of resources with which each level of output is produced when all resources are variable.

- The long-run average total cost curve gets its shape from economies and diseconomies of scale.

Long-Run and Short-Run Cost Curves (1)



Long-Run and Short-Run Cost Curves (2)



Minimum Efficient Scale

- Most industries experience both economies and diseconomies of scale.

- **The minimum efficient scale (MES)** is the minimum point of the long-run average-cost curve; the output level at which the cost per unit of output is the lowest.

- The MES varies considerably across industries.

Total revenue = price x quantity

TYPES OF COSTS

Term	***Definition and Other Notes***
Fixed cost	Independent of a firm's output; incurred even if a firm produces nothing (rent)
Variable cost	Varies with a firm's level of output (raw materials and labor costs)
Total cost	Fixed costs + variable costs

AVERAGE COSTS

Term	*Definition and Other Notes*
Average fixed cost (AFC)	Fixed cost ÷ output; always decreasing as output increases
Average variable cost (AVC)	Variable cost ÷ output; increase in total revenue received by producing one more unit; U-shaped curve
Average total cost (ATC)	AFC + AVC; U-shaped curve

SHUTTING DOWN

- A firm will shut down when its revenues cannot cover its variable costs (marginal revenue < AVC)
- In this situation, a firm is better off not producing at all and incurring only the fixed costs