

CHAPTER 7: SECTION 2

Costs

- Five types of costs are associated with the production of goods: fixed cost, variable cost, total cost, average total cost, and marginal cost. (See Transparency 7-2.)

TRANSPARENCY 7-2: Cost Concepts

Type of cost	Description	Example
Fixed cost (FC)	Cost, or expense, that does not change as output changes	A firm's monthly rent is a fixed cost.
Variable cost (VC)	Cost, or expense, that changes as output changes	The amount a firm spends on employees' wages is usually a variable cost.
Total cost (TC)	Fixed costs plus variable costs (FC + VC)	If fixed costs equal \$2,000, and variable costs equal \$4,000, then total cost equals \$6,000.
Average total cost (ATC)	Total cost divided by quantity of output $\left(\frac{TC}{Q}\right)$	If total cost equals \$6,000, and quantity equals 1,000 units, then average total cost equals \$6.
Marginal cost (MC)	Change in total cost divided by change in quantity of output $\left(\frac{\Delta TC}{\Delta Q}\right)$	If total cost equals \$6,000 when quantity equals 1,000 units, and total cost equals \$6,008 when quantity equals 1,001 units, then marginal cost equals \$8.

Fixed Cost, Variable Cost, and Total Cost

- A **fixed cost** is a cost, or expense, that is the same no matter how many units of a good are produced. An example is building rent.
- A **variable cost** changes with the number of units of a good produced.
- **Total cost** is the sum of fixed cost plus variable cost: Total cost = Fixed cost + Variable cost.

Average Total Cost

- To determine how much you need to charge in order to make a profit, it helps to understand the concept of average total cost. The **average total cost** is the total cost divided by the quantity of output: $\text{Average total cost} = \text{Total cost} \div \text{Quantity}$.

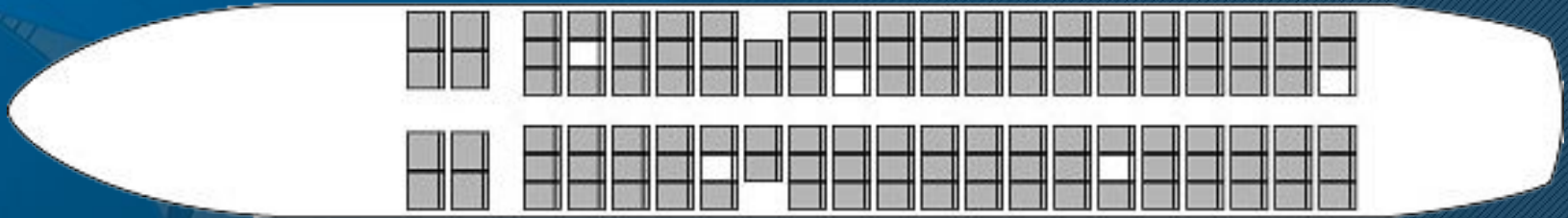
Marginal Cost

- One concept is very important when deciding how much of a good to make—marginal cost.
- **Marginal cost** is the cost of producing an additional unit of a good—that is, the change in total cost that results from producing an additional unit of output.

- A perfect example of marginal cost involves airline travel. (See Transparency 7-3.) Assume a plane is nearly full, and is preparing to depart for a destination that you would like to go to. How much more will it cost the airline to take you along? Not much. Simply adding one more passenger will not increase the number of pilots or flight attendants and will not significantly affect the amount of gas needed. The marginal cost of adding one more passenger is close to \$0.

TRANSPARENCY 7-3: Marginal Cost

Example: A plane is preparing to depart from the gate. A few empty seats remain, for which the airline is charging \$400.



Question: What is the additional cost to the airline if one more passenger boards the plane?

Consider: Additional cost of pilots, attendants, food, and fuel.