Chapter 8
Costs of Production

What is a Fixed Cost?
Cost to a firm that does not vary with the quantity of goods produced

What are examples of Fixed Costs?
- rent or mortgage
- a part of utilities

Fixed Cost is also known as…..
Sunk Cost

What is a Variable Cost?
Cost that varies with the quantity of goods produced

What are examples of Variable Costs?
- worker’s wages
- raw materials
- some utilities
- some taxes
What is Labor Productivity?
The output per laborer per hour

Under what condition is it cheaper to pay $10 an hr. to a U.S. worker than $1 an hour to a foreign worker?

If the U.S. worker is more than 10 times as productive as the foreign worker

Why do labor costs per unit of output change as more units of labor are hired?
♦ Price of labor increases
♦ Quality of labor decreases
♦ Labor productivity Changes

Why do non-labor, variable costs per unit of output increase as output increases?
Resources become more scarce

Does the cost of all resources increase more than production increases?
No, the costs of some resources may vary proportionately with the level of production
What is Total Variable Cost?

The sum of specific variable costs in the firm’s cost structure.

What are Total Costs?

Cost to the firm that includes both fixed and variable costs.

What is Average Total Cost?

Total cost divided by the quantity of goods produced.
What is Average Variable Cost?
Total variable cost divided by the quantity of goods produced.

What is Average Fixed Cost?
Total fixed cost divided by the quantity of goods produced.

What is Marginal Cost?
The change in total cost incurred by adding one more unit of output to production.
If the only thing we observe is a change in total cost associated with a small change in output produced then MC is computed in the following way.

\[ MC = \frac{\Delta TC}{\Delta Q} \]

**Why does \( MC = ATC \) at minimum \( ATC \)?**

If the marginal is above the average, the average increases
If the marginal is below the average, the average decreases
What is the Short Run?
A time in which producers can change some, but not all of its resources.

What is the Long Run?
The time in which producers can change quantity of all resources.

What are Economies of Scale?
When a firm increases resources in the long run and ATC decreases.

What are Diseconomies of Scale?
When a company increases resources in the long run and ATC increases.

Short-run Vs. Long-run Average Cost

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$ per unit of Output