Lesson 1: What is Supply?

Lesson 2: The Theory of Production

Lesson 3: Cost, Revenue, and Profit Maximization
5 Supply

BIG IDEAS = Responsibility, Choices, Changes, and Relationships

Essential Questions:

– What is supply and what does the Law of Supply state?
– How can a change in supply occur?
– What is supply elasticity?

• Remember you are responsible for answering one of these essential questions at the end of this unit as an assessment.

Why it matters

Understand: Markets exist when buyers and sellers interact, and market prices are set by the interaction of demand and supply. The profit motive acts as an incentive for people to produce and sell goods and services.
• Learning goals for Supply:
  – Explain the relationship of price and quantity
  – Analyze the relationship in a supply schedule & supply curve
  – Explain why price can only be a change in the quantity supplied
  – Explain the 5 factors can change supply (or 7)
  – Identify the factors that influence the size of a change in the quantity supplied
Lesson #1 Vocabulary – 10 words

- supply
- Law of Supply
- supply schedule
- supply curve
- market supply curve
- quantity supplied
- change in the quantity supplied
- change in supply
- subsidy
- supply elasticity
What is Supply?

Understand that the higher the price of a product, the more of it a producer will offer for sale.

- **Law of Supply**: Producers will offer more product at higher prices and less at lower prices.
- **Supply** is an amount of product offered for sale at prevailing market prices.
- Direct relationship
Law of Supply  When the price of a product goes up, quantity supplied goes up. When the price goes down, quantity supplied goes down.
What is Supply? (cont.)

Supply can be illustrated by a supply schedule or a supply curve.

• Suppliers must determine how much to offer for sale at various prices, taking into account the factors of production. (C,E,L,L)

• Like demand, supply can be shown in the form of a table—a supply schedule.

• When information is plotted on a graph, it forms the supply curve.

• Normal supply curves have a positive slope—prices go up; quantity supply goes up. (Supply to the sky)

• Economists are more interested in the market supply curve than for a single firm.
What is Supply (cont.)

• The **quantity supplied** is the amount producers bring to market at any given price.

• A change in price leads to a **change in the quantity supplied**. (CITQS = PRICE)

• The producer has the freedom to adjust production, but the interaction of supply and demand usually determines the final price of a product. (equilibrium)
Change in Supply

**MAIN Idea** Several factors can contribute to a change in supply.

- A *change in supply* occurs for several reasons. (5 supply shifters or 7)
  - Cost of resources
  - Productivity/Technology
  - Government involvement (Taxes/Subsidies)
  - Number of sellers
  - Expectations
Elasticity of Supply

The response to a change in price varies for different products.

• Supply, like demand, has elasticity.

• **Supply elasticity** measures how the quantity supplied responds to a change in price.

• Supply elasticity is based solely on production considerations.

• A firm’s ability to adjust to new prices quickly is likely to be elastic.

• A firm that takes longer to react to a change in prices is likely to be inelastic.
Elasticity of Supply (cont.)

- Supply elasticity has three forms:
  - Elastic = ice cream/pencils
  - Inelastic = dishwashers/cars
  - Unit elastic
Lesson #2 Vocabulary – 7 words

- production function
- short run
- long run
- total product
- marginal product
- stages of production
- diminishing returns
The Theory of the Production Function

**MAIN Idea**

Understand how a change in the variable input called “labor” results in changes in output.

The production function shows how output changes when a variable input such as labor changes.

Production can be illustrated with a production function. (chart)
The Production Function (cont.)

- Economists focus on the **short run** when they analyze production. (Variable of labor)

- No changes occur in land, equipment, or technology. Changes in **total product** (output) are caused by a change in the number of workers.

- **Long run** changes involve all factors of production.

- **Marginal product**—the extra output or change in total product caused by adding one more unit of variable input.
Stages of Production

The stages of production help companies determine the most profitable number of workers to hire.

• In deciding how many workers to hire, firm must review the three stages of production.
  – Increasing returns, Stage I
  – Diminishing returns, Stage II
  – Negative returns, Stage III
Production Function
The production function helps us find the optimal number of variable units (labor) to be used in production. As workers are added in Stage I, production increases at an increasing rate. In Stage II, production increases at a decreasing rate because of diminishing returns. In Stage III, production decreases because more workers cannot make a positive contribution.
Lesson #3 Vocabulary – 11 words

- fixed costs
- overhead
- variable costs
- total cost
- marginal cost
- e-commerce
- break-even point
- total revenue
- marginal revenue
- marginal analysis
- profit-maximizing quantity of output
Measures of Cost

Understand how businesses analyze their costs & revenues, which helps them maximize their profits.

Businesses analyze fixed, variable, total, and marginal costs to make production decisions.

• There are several ways businesses measure costs:
  – **Fixed costs** Total fixed costs, sometimes called overhead, remain the same.
  – **Variable costs**
  – **Total cost**
  – **Marginal cost**
Applying Cost Principles

Fixed and variable costs affect the way a business operates.

- People engage in e-commerce on the Internet because:
  - Overhead costs are low.
  - There is a low need for inventory.

- After businesses measure their costs, they determine the break-even point.
  - Businesses wanting to do better than break even apply principles of marginal analysis to their costs and revenues.
Marginal Analysis and Profit Maximization

**MAIN Idea** Businesses compare marginal revenue with marginal cost to find the level of production that maximizes profits.

- Two key measures of revenue are used to find the amount of output that will produce the greatest profits:
  - **Total revenue**
  - **Marginal revenue**
Like businesses, we use **marginal analysis** in our own decision making.

When marginal cost is less than marginal revenue, hire more variable inputs (labor) to expand output.

**Profit-maximizing quantity of output** is reached when marginal cost and marginal revenue are equal.
Cost and Revenue  While businesses have several types of costs, they can find the profit-maximizing quantity of output by comparing marginal cost to their marginal revenue.