10
Production, Firms, and the Market

Learning Goals

Once you have completed this chapter, you should be able to:

- Determine how much to produce of a product and the best way to do it
- Explain the importance of the role profit plays in production decisions
- Understand the nature and importance of productivity and efficiency
- Identify the importance and nature of competition in different markets
- Understand the economic thinking behind a firm's plan to maximize profit

Key Terms

- explicit costs
- implicit costs
- economic profit
- Firm
- Efficiency
- cost per unit
- unit labour cost
- gross domestic product (GDP)
- labour-intensive production
- capital-intensive production
- technology-intensive production
- economies of scale
- Collusion
- social (third-party) costs
- Regulation
- accounting profit
- theory of the firm
- total revenue
- total cost
- fixed costs
- variable costs
- short run
- long run
- marginal cost
- marginal revenue
- non-price competition
- black market
- perfect competition
- monopolistic competition
- product differentiation
- Oligopoly
- Monopoly
- copyright law
- patent law
- natural monopoly
- Deregulation
- privatization

Production Choices and Issues

Profit

- Businesses use production to process and transform economic resources into goods and/or services with economic value.
- The resources used in production (land, labour, capital, and entrepreneurship) are called *inputs*.
- The firm is a business that sells its goods or services for a profit, and its main objective is to maximize its profit.

Total Profit = Total Revenue – Total Costs

Production Costs and Issues

- ***Explicit Costs:*** Costs that appear on a business's accounting statements, such as payment for material, machines, rent, utilities, and taxes.
- ***Implicit Costs:*** Costs not included among expenses on the income statement of a business, such as the amount of owner's time spent devoted to his or her business and the money invested in the business that could have earned interest if invested somewhere else.

<u>Accounting Profit:</u> Total Revenue – Explicit Costs

<u>Economic Profit:</u> Total Revenue - (Explicit Costs + Implicit Costs)

Production Choices

Controlling the Costs of Production

- The company, business, or **firm** that is able to produce the desired product at the lowest possible cost has the best chance of maximizing profits.
  - **Firm:** A privately owned organization engaged in business activities.
- This is why *productivity* (maximizing the output from the resources used) and **efficiency** (producing at the lowest possible cost) are of such importance to a firm.
  - **Efficiency:** A firm’s ability to produce at the lowest possible cost, measured by either its cost per unit or its unit labour cost.
- **Cost Per Unit:** A measure of a firm’s efficiency, obtained by dividing total costs by the number of units produced.
- **Unit Labour Cost:** A measure of a firm’s efficiency, obtained by dividing its total labour costs by the number of units it produces.

Production Choices

Choosing Production Methods

- With the goal of keeping production costs to a minimum, firms will try to produce goods or services in a way that makes the most productive use of available resources.
- **Labour-intensive Production:** Industry in which labour, rather than machinery, dominates the production process.
- **Capital-intensive Production:** Production in which machinery rather than labour dominates the process, characteristic of the factory system.
- **Technology-intensive Production:** Manufacturing goods or providing services that involve the extensive use of highly specialized technology, such as medical research laboratories and computer software design and engineering facilities.
- **Economies of scale:** The greater efficiency a firm can achieve when it produces very large amounts of output.

Production Issues

- **Is Bigger Always Better?** When a few very large firms are involved, normal market behaviour may result in less competition, and without the pressure of competition to keep prices down, they can more easily float upward.
- **Third Party Costs** Profit-seeking producers try to reduce their costs of production to a minimum. Markets are not always good at internalizing or passing on all the costs of production to those who consume the product. Pollution is an example. These non-monetary costs are called **social costs** or **third-party costs**.
  - **social (third-party) costs** Production costs that are not paid by either the product's producer or consumer but passed on to others; for example, environmental pollution, garbage disposal, and resource depletion.
- **The Public-Private Balance** The Canadian government has also been found wanting as an efficient provider of goods and services.
- **Is Regulation the Answer?** Markets cannot exist without **regulations** that define contracts, protect private property and competition, and require certain production standards.
  - **Regulation:** Government rules that oversee, standardize, and control markets, industries, and business practices.

Theory of the Firm

- **Theory of the firm:** The relationships that exist between a firm's revenues, costs, and profits.

Total Profit = Total Revenue – Total Costs

- **Total Revenue:** The price of a product multiplied by the quantity demanded of the product.

Total Profit = (Price x Quantity Sold) – Total Costs

Theory of the Firm

- **Total Costs:** A firm's **total cost** of production refers to the money the firm spends to purchase the productive resources it needs to produce its good or service. It includes both **fixed costs and variable costs.**
  - **total cost:** The total of a firm's fixed and variable costs, which includes all the purchases made by a firm for productive resources to produce a good or service.
  - **fixed costs:** Costs (such as rent and property taxes) that remain the same at all levels of output and must be paid whether the firm produces or not.
  - **variable costs:** Costs that change or vary with the level of output, such as labour and raw materials.

Total Profit = (Price x Quantity Sold) – (Fixed Costs + Variable Costs)

Theory of the Firm

- **Short Run:** The **short run** is a period over which the firm's maximum capacity becomes fixed because of a shortage of at least one resource. The costs of some resources, such as labour, fuel, and raw materials, are relatively flexible and can be quickly adjusted.
  - **short run: A time period in which the firm's maximum capacity is fixed by the shortage of at least one resource.**
- **Long Run:** In a firm's long run, there are no fixed costs of production. All costs become variable, from staffing to location. The long run is considered the planning period when the firm has enough time to enlarge its productive capacity, shift production to generate other goods or services, or, if necessary, shut down completely.
  - **long run: A time period in which the firm can adjust both its fixed and variable costs to increase its maximum capacity.**

Theory of the Firm

- If a firm wishes to maximize its profit, it should always produce up to the point at which there is no added benefit (that is, profit) from producing any more.
- In other words, it should keep producing to the point at which the **marginal cost** (that is, additional cost) of producing one more unit equals the **marginal revenue** (that is, additional revenue) received from the unit's sale. At the point when the marginal cost exceeds the marginal revenue that results from producing one more unit, the firm would waste resources and reduce its profit.
  - **marginal cost:** The additional cost for a firm of producing one more unit of its product
  - **marginal revenue:** The additional revenue gained by a firm from producing one more unit of its product.

Profits are maximized at a production level when Marginal revenue = Marginal cost

Firms, Competition, and the Market

- Firms compete against one another in many ways. Price is one of the most obvious and significant areas of competition. A lower price will increase the sale of most products.
- Firms also engage in **non-price competition**—competition that involves changing anything but price.
    - **non-price competition:** Competition among firms in areas other than price (for example, quality of product).

Firms, Competition, and the Market

The five factors that help to determine market structure are as follows:

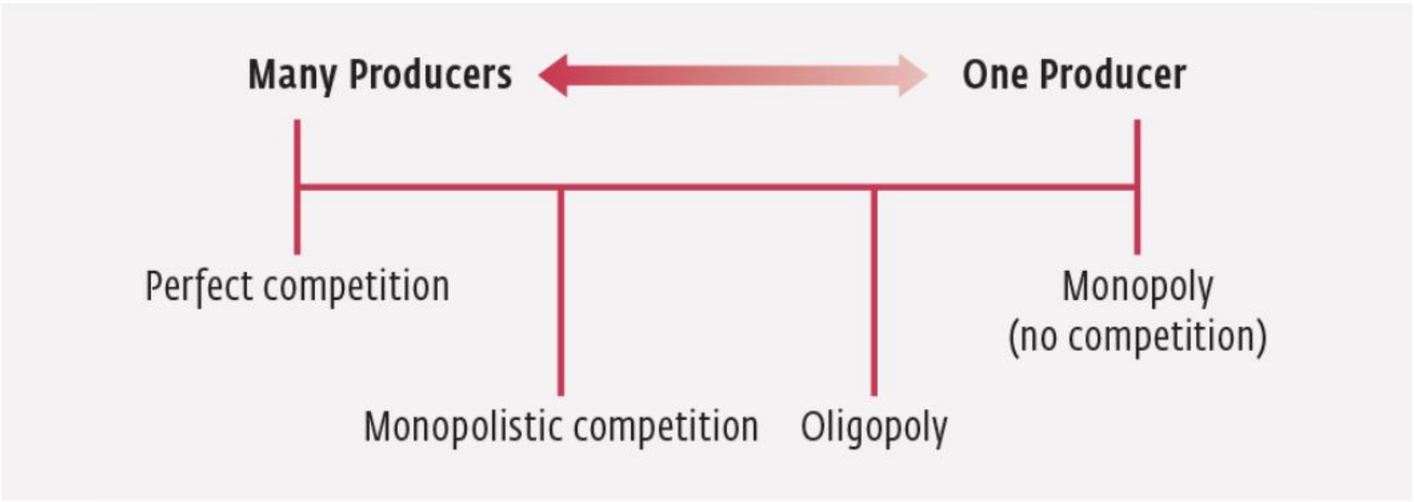
1. The number (and size) of firms in the market
2. The degree to which competitors' products are similar
3. A firm's control over price
4. The ease with which firms can enter or leave the market
5. The amount of non-price competition

- Most markets and industries can be classified into one of four basic market structures: **perfect competition**, **monopolistic competition**, **oligopoly**, and **monopoly**.

Firms, Competition, and the Market

FIGURE 10.3

Types of market structure



Firms, Competition, and the Market

FIGURE 10.4

Characteristics of market structures

Characteristics	Perfect Competition	Monopolistic Competition	Oligopoly	Monopoly
Number and size of firms in the market	Large number of firms, but small in size	Many firms, but not large in size	Few firms, but large in size	One large firm
Degree of product similarity in the market	Identical products in the market	Product differentiation in the market (in quality, packaging, marketing, etc.)	Some product differentiation in the market	Unique product in the market
A firm's control over price	No control; a price taker	Some control; a price influencer	Significant control; informal collective pricing	Total control; a price maker
Ease with which firms can enter the market	No barriers to market	Some barriers to market	Many barriers to market	Almost total exclusion
Amount of non-price competition	Little (location sometimes)	Some (product quality, advertising, packaging)	Considerable (packaging, advertising, brand name)	Not much (public relations, advertising needed when close substitutes exist)

Perfect Competition

Perfect competition: A rare market structure characterized by many sellers (selling exactly the same product) and many buyers, no barriers to entry into the market for new firms, and perfect knowledge of prices (so there are no price differences and no individual can influence them); also called *pure competition*.

The main characteristics of a perfectly competitive market are as follows:

1. There are many buyers and sellers in the market. There are so many sellers that individual firms have no control over total market supply or price.
2. All the firms sell a standardized product. Imagine a very long country road along which every second farmer has a stand selling the same produce: corn, peaches, and apples.
3. Producers must accept the market equilibrium price for their product. They can sell as much or as little as they choose at that price without changing it. They are price takers—they must take the market price—because individually they have no impact on total supply.
4. It is relatively easy to enter and exit the market. The start-up costs or the costs of leaving are not so great as to prevent firms from doing either one.
5. Because all firms sell the same product and each firm can sell as much or as little as it wants at the market price, there is little non-price competition among them.

Monopolistic Competition

Monopolistic competition: A market structure in which many small to medium-sized firms sell a differentiated product, each having some control over price.

The main characteristics of monopolistic competition are as follows:

1. A substantial number of firms compete in the market.
2. Firms sell a similar but not identical product.
3. Individual firms are large enough to influence total supply, and so they have some influence over price.
4. It is relatively easy for a new firm to start up.
5. Non-price competition is significant.

Product Differentiation: The attempt by competing firms to distinguish their product in some desirable way from that of their competitors to gain greater control over price.

Oligopoly

Oligopoly: A market structure characterized by a few large firms, selling an identical or differentiated product, each with some to substantial control over price.

The main characteristics of oligopoly are as follows:

1. It is dominated by a few, very large firms.
2. Competing firms may produce products as similar as steel or as different as automobiles.
3. The firm's freedom to set price varies from slight to substantial.
4. Significant financial and other barriers exist to enter this industry.
5. Non-price competition can be intense.

Monopoly

Monopoly: A market structure in which one firm has complete control over supply, allowing it to set a profit-maximizing price.

The main characteristics of oligopoly are as follows:

1. It is a market completely dominated by a single firm having complete control over total supply.
2. The firm produces a unique product for which there are no close substitutes.
3. The firm is a price maker; that is, by changing supply it can set whatever price will maximize profits.
4. Major barriers to entry prevent other firms from entering the market.
5. Because there are no direct competitors, non-price competition is unnecessary.