Learning Objectives

Upon completion of this unit, students should be able to:

1. Explain the relationship between cost and profit.
2. Identify the elements that affect production in the short term.
3. Explain how the costs of production vary with output in the short run.
4. Describe how firms use the long-run average cost curve to make choices about production.
5. Define a perfectly competitive market and explain its effect on demand.
6. Explain how firms maximize profit in the short run.
7. Identify ways firms minimize short-run losses.
8. Explain how firms manage short-run supply.
9. Describe how taking the long-run view affects economic factors.
10. Describe how different cost structures influence an industry’s long-run supply curve.
11. Identify how concepts of efficiency are used to judge market performance.

Unit Summary

In Unit IV, the perfectly competitive market structure is detailed. In general, a market economy is dominated by a substantial amount of producers of most available goods and services. In a perfectly competitive market, individual consumers or firms have limited or no control over market prices. Demand and supply in the market interact constantly to determine an equilibrium price that consumers and producers accept by buying and selling in the market. Regardless of what the market price becomes, firms will always try to maximize profits.

(Unit Summary continued on page 2)
The process of evaluating a firm’s profit maximizing decisions requires technical cost-benefit analysis. As an introduction for evaluating the costs of firms, please review the following equations.

Profit = Total Revenue - Total Cost

Total Cost = Fixed Cost + Variable Cost

Marginal Cost = Change in Total Cost / Change in output quantity

Average Fixed Cost = Fixed Cost / output quantity

Average Variable Cost = Variable Cost / output quantity

Average Total Cost = Average Fixed Cost + Average Variable Cost

Obviously, there are quite a few calculations involved in determining the costs associated with operating a firm. There are exceptionally good reasons for why the time is taken to derive these numbers and, furthermore, to teach future business operators how to make these calculations. Most of these reasons communicate directly to profit maximization. There are two ways for the perfectly competitive firm to maximize profits: (1) finding the biggest gap between total revenue and total cost and producing that quantity of output or (2) producing at the level of output where marginal revenue equals marginal cost. This point is better made when a firm’s costs are graphically analyzed.

During normal operations of a perfectly competitive firm, various decisions have to be made regarding when to produce and when to cease production. Demand is rarely constant, so the firm’s current positions have to be analyzed frequently. As the textbook states, in the short run, the quantity of variable resources can change, but other resources are fixed. However, in the long run,
firms have time to enter, exit, and adjust within the market. This fact allows for no distinction to be made between fixed and variable costs. In other words, all costs are variable in long-run analysis.

As mentioned previously, the profit maximizing level of output for a competitive firm corresponds to the intersection of the marginal revenue and marginal cost curves. However, though this point maximizes profit, the firm can still be unprofitable. To clarify, consider the average total cost curve for the firm. If the intersection of the marginal revenue and marginal cost curves is above the average total cost at that level of output, the firm maximizes its profit. If the average total cost curve intersects the marginal revenue and marginal cost curves at the corresponding level of output, the firm breaks even.

There are two cases in which the average total cost curve can exceed the marginal revenue and marginal cost curve’s intersection. In the first case, the firm continues to produce, even though it is incurring a loss. For the firm to continue to produce at a loss, its variable costs must be below the intersection of the marginal revenue and marginal cost curves. In this situation, the firm offsets some of its fixed costs by generating revenue, covering its variable costs, and using the remainder to pay for some of its fixed costs. In the second case, if the average variable cost is above the intersection of the marginal revenue and marginal cost curves, the firm will close. In this case, the firm is costing itself more money by continuing to produce.

It is important for parties involved in the management of a business to be able to analyze operations in the microeconomic sense. With that being said, business students should give special attention to educational resources that introduce profit maximization, and this unit is no exception.