

## Chapter 10: Pure Monopoly

While the perfectly competitive firm has no market power over prices, the monopoly has the power to determine both the price and output of the product in the market. The monopoly model illustrates important differences from perfect competition in terms of efficiency and effects on producer and consumer surplus. Chapter 10 focuses on monopoly development, output and price determination, effects of monopoly behavior, and government regulation.

A pure monopoly consists of a sole producer which is a price-maker, holding the sole power to determine the price and output of its products. No close substitutes exist because entry to the industry has been effectively blocked by economies of scale, patents, licensing, control of resources, or some other means.

As the sole producer, the monopolist faces a downward-sloping market demand curve. Questions on the AP exam have assumed no price discrimination, so firms are assumed to charge all consumers the same price. Therefore, in order to sell more products, the firm must lower the price of *all* of its products, not just the last one. As a result, the monopolist's marginal revenue lies *below* the demand curve, falling to zero at the point where total revenue to the firm is maximized. The monopolist will always produce in the elastic (upper) section of the demand curve, because as price falls, total revenue to the firm increases.

The costs of production and relationships among the cost curves are the same for monopolies as for purely competitive firms. As was true for the purely competitive firm, the monopoly's profit-maximizing output is found where the marginal cost equals the marginal revenue. The price is set on the demand curve directly over the  $MC=MR$  output point. Profit per unit is the price minus average total cost at the profit-maximizing output; total profit is the profit per unit times the output. Unlike purely competitive firms, monopolists can sustain long-run economic profit because barriers prohibit the entry of competitors.

Monopolists produce lower output and charge higher prices than purely competitive firms, and because the monopoly restricts output, a deadweight loss reduces the consumer and producer surplus. This decision also results in productive and allocative inefficiency.

If a firm achieves economies of scale over a significant range of output, a lower cost of production may be achieved by having only one firm produce output—a natural monopoly, such as a utility company. Governments generally regulate the price for such monopolies. The socially optimal price, which achieves allocative efficiency, is found where the marginal cost crosses the demand curve. However, because this price may be lower than the average total cost, a government subsidy may be required to keep the firm in business. A fair return price, where the average total cost crosses the demand curve, allows the firm to earn a normal profit. While it results in inefficiency, the firm still produces a greater output at a lower price than it would as an unregulated monopoly.

Material from Chapter 10 appears on the AP Microeconomics Exam in a large number of multiple-choice questions, and a free-response question about decision-making in at least one of the market structures is part of nearly every AP Microeconomics Exam. It is essential to be able to illustrate the regulated and unregulated monopoly models, explain the relationships among the curves and the

reasons for their shapes and positions, and determine profit-maximizing output, price, profit, and deadweight loss.