Chapter 15: Monopoly
Principles of Economics, 8th Edition
N. Gregory Mankiw
Page 1

1. Introduction:
    a. Monopoly is a firm that is the sole seller of a product without close substitutes. P. 290.
    b. While competitive firms are price takers, it is a price maker.
    c. We continue to assume that it attempts to maximize profits.
    d. Since many monopolies are regulated, it is often more appropriate to think about firms with market power that permits them to earn extraordinary profits for an extended period.
        i. Market power is based on substantial barriers to entry.
    e. While price equals marginal cost for a competitive firm, it is greater than marginal cost for a monopolist.

2. Why Monopolies Arise
    a. The fundamental cause of monopoly is barriers to entry which are based on
        i. A key resource is owned by a single firm.
            (1) This is very minor.
                (a) DeBeers controls 80 percent of the market.
                (b) However, it has to work hard to differentiate diamonds from other gems.
                (c) *This example does not make it clear how DeBeers controls the supply of diamonds from non-South African sources.*
        ii. The government gives a single firm the exclusive right to produce some good.
            (1) In some cases, there are benefits and costs such as patents and copyrights.
            (2) In other cases, there are few benefits such as taxi and trucking licenses.
        iii. The costs of production make a single producer more efficient than a large number of firms.
            (1) A natural monopolies is a monopoly that arises because a single firm can supply a good or service to an entire market at a smaller cost than could two or more firms. P. 292.
            (2) An example would be an uncongested bridge.
            (3) This often influenced by the size of the market.
            (4) **Figure 1: Economies of Scale as a Cause of Monopoly. P. 292.**
        iv. Some would add network externalities, in which a good it attractive because others have it.
            (1) Microsoft Office
            (2) Facebook
    b. Since monopolies are a matter of degree, I have also thought that information can be the source of small monopolies.
            (1) The only garbage collector in Taos may be a monopolist because no one realizes how profitable it is.

3. How Monopolies Make Production and Pricing Decisions

a. Monopolies versus Competition
   i. While the competitive demand curve is horizontal, the demand curve facing the monopolist is the negatively sloped market demand curve.
   ii. We assume that the monopolist's goal is to maximize profit.
   iii. **Figure 2: Demand Curves for Competitive and Monopoly Firms. P. 294.**

b. A Monopoly's Revenue
   i. Its marginal revenue curve is negatively sloped because with an increase in Q there are
      (1) the output effect (more output is sold) and
      (2) the price effect (but at a lower price).
         (a) A competitive firm does not have a price effect.
      (3) Mathematically, if $P = a - bQ$, then
         (a) $TR = P * Q = aQ - bQ^2$ and
         (b) $MR = dTR/dQ = a - 2bQ$.
      (4) Marginal revenue has the same intercept and twice the slope of the demand curve.
   ii. **Table 1: A Monopoly's Total, Average, and Marginal Revenue. P. 295.**
   iii. **Figure 3: Demand and Marginal Revenue Curves for a Monopoly. P. 296..**

c. Profit maximization is the output level at which marginal revenue is equal to marginal cost.
   i. Price is greater than marginal cost.
   ii. For a competitive firm: P = MR = MC
   iii. For a monopoly firm: P > MR = MC
   iv. **Figure 4: Profit Maximization for a Monopoly. P. 297.**
   v. **FYI: Why a Monopoly Does Not Have a Supply Curve**, **P. 298.**
      (1) Because there is only one price and quantity at which it will maximize profits given its costs and market demand.

d. A Monopoly's Profit is total revenue minus total cost.
   i. **Figure 5: The Monopolist's Profit. P. 299.**

e. **Case Study: Monopoly Drugs versus Generic Drugs**, **P. 299.**
   i. **Figure 6: The Market for Drugs. P. 300.**
   ii. Prices drop when patents expire.

4. The Welfare Cost of Monopoly

a. There is a deadweight loss because some consumer and producer surplus is lost.
   i. The critical question here is relative to what?
      (1) If the monopoly is based on economies of scale, more firms would just increase the average cost to consumers.
      (2) If it is based on government restrictions, then they need to be evaluated.

ii. **Figure 7: The Efficient Level of Output. P. 301.**
iii. **Figure 8: The Inefficiency of Monopoly. P. 302.**

b. The Monopoly's Profit: A Social Cost?
i. To obtain a monopoly, firms have to compete.
ii. Much of the profits expected to be earned by a monopolist will be used to either gain or maintain the monopoly, so its potential profits often become a social cost.
iii. On my web site is one of my articles that demonstrates that cement companies built plants too early and too big to establish their "spatial" monopolies.
(1) The effect was probably profits that did not differ much from a normal rate of return.

5. Price Discrimination is the business practice of selling the same good at different prices to different customers. P. 303.
a. or selling goods with different costs at the same price, which is a less common concern.
b. It requires three conditions:
i. Market power.
ii. The ability to separate markets.
iii. Different elasticities in the markets.
c. A Parable About Pricing
i. Textbooks in different countries.
ii. Hardbacks and paperbacks.

d. The Moral of the Story
i. Price discrimination is a rational strategy for a profit maximizing monopolist.
(1) The most common form is called third degree price discrimination in which different groups are charged different prices.
(2) The less elastic the group's demand, the higher the price that they pay.
i. Arbitrage can make price discrimination difficult.
ii. Price discrimination can raise economic welfare.
(1) If a firm has perfect price discrimination, it will price each unit at the highest price that a consumer will pay with the result that the competitive output will result, but with all the consumer surplus being transferred to the supplier.

d. The Analytics of Price Discrimination
i. **Figure 9: Welfare With and Without Price Discrimination. P. 306.**

e. Examples of Price Discrimination *(some of these are based on different costs)*:
i. Movie tickets: children and seniors get discounts.
ii. Airline prices: businessmen vs. tourists.
(1) Because seats held for businessmen can end up being vacant, which seldom occurs with tourist tickets, they are more costly to serve, so this may not be price discrimination.

iii. Discount coupons: the effect is lower prices for people who are sensitive to price.

iv. Financial Aid: the effective price of the education differs among students.

(1) *Early admission applicants, who have relatively inelastic demand, often receive less financial aid.*

v. Quantity Discounts: because of the negative slope of the demand curve.

(1) A clearer example of price discrimination is when you have to pay a high price for some initial units, which is then followed by a lower price for subsequent units.

(2) In the News: Price Discrimination in Education, P. 308.

6. Public Policy Toward Monopolies

a. Increasing Competition with Antitrust Laws

i. Sometimes synergies are lost.

b. Regulation

i. Ask the Experts: Airline Mergers: Recent mergers have been bad for travelers. P. 309.

(1) 26% disagree,

(2) 45% are uncertain and

(3) 29% agree.

ii. P = MC often is unrealistic.

iii. Regulated monopolists do not have strong incentives to minimize costs.

iv. **Figure 10: Marginal Cost Pricing for a Natural Monopoly. P. 310.**

c. Public ownership has even worse incentives.

d. Doing nothing is often attractive and has become more attractive as natural monopolies have become less common.

7. Conclusion: The Prevalence of Monopoly

a. In the end, monopoly is a matter of degree.

b. **Table 2: Competition versus Monopoly: A Summary Comparison, P. 312.**

8. Summary