Monopoly

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Reading: Chapter 14

Start examining markets in which perfect competition does not prevail. We examine the case of monopoly – single seller - and explore how it results in market failure and efficiency loss. Discuss appropriate policies to address the problem. Also examine the case of discriminating monopolist.

Monopoly

Meaning of Monopoly
What a Monopolist Does

A monopolist is a firm that is the only producer of a good that has no close substitutes. An industry or market with one seller is known as a monopoly.

The ability of a monopolist (or other firm) to raise its price above the competitive level by reducing output is known as market power.

Under perfect competition, price and quantity are determined by supply and demand. Equilibrium is at C, with price \( P_c \) and quantity is \( Q_c \). A monopolist reduces the quantity supplied to \( Q_M \), and moves up the demand curve, raising the price to \( P_M \). Firms in perfectly competitive markets cannot do this because they are price takers.

A monopolist has market power and hence charges higher price and produces less output than a competitive industry. Monopolist makes in the short and long runs.

Monopoly

Market Structures

Four principal models of market structure:
1. perfect competition
2. monopoly
3. oligopoly
4. monopolistic competition

Models of market structures can be distinguished on two dimensions:
- The number of producers in the market: one, few, or many (few is not defined by numbers but qualitatively).
- Whether the goods offered are identical or differentiated (considered different by consumers but similar in the sense that they are substitutable).

Meaning of Monopoly
Why Do Monopolies Exist?

Why does profit persist in the long run? Why do other firms not enter the market? Monopolies can exist because of barriers to entry due to:

- control of natural resources or inputs. Ex: De Beers and diamonds
- economies of scale, which create natural monopolies. Ex: utilities like gas – large fixed costs and falling average total cost
- technological superiority. Ex: Computer chips. But others can copy, temporary
- legal restrictions imposed by governments, giving exclusive rights, including patents and copyrights.

Monopoly Equilibrium
Demand curve

Profit maximizing firms produce at the level of output at which profit, or revenue minus cost is at its maximum. This is the same as the output at which \( MC = MR \).

In a market with perfect competition, the individual firm is a price taker. Cannot charge a higher price than market price: buyers will buy from other firms. Will not charge a lower price than market price: it can sell any amount at the going price – why sell for less. So the firm’s demand curve is a perfectly elastic, although the market demand curve is negatively sloped. The firm here is small.

For the monopolist, the demand curve is the market demand curve: it is therefore downward sloping. The monopolist knows that if it produces more it will obtain a lower price for its product and will take this into account.

As a firm expands output, ATC falls due to economies of scale. Other firms who are smaller will not be able to compete and exit. New firms cannot enter, because of high fixed costs and high ATC at low output levels.
Monopoly Equilibrium
Demand curve and marginal revenue

Monopoly Equilibrium
Profit Maximization
Monopolist's profit maximizing equilibrium occurs at output at which \( MC = MR \).

Profit maximizing output is the output where the marginal cost (MC) equals the marginal revenue (MR). This point represents the profit-maximizing output where the demand curve and average total cost (ATC) are shown.

Monopoly Equilibrium
Profit maximization, cont.

In the general case when the marginal cost (MC) curve is upward sloping and there are fixed costs, the profit-maximizing output is U-shaped.

Monopoly Equilibrium
Monopoly versus Perfect Competition

Compared with a competitive industry, a monopolist does the following:

- Produces smaller quantity: \( Q_M < Q_C \)
- Charges higher price: \( P_M > P_C \)
- Earns a profit

The comparison suggests that the more inelastic the demand curve, the lower the output and higher the price.

Monopoly and Public Policy
Welfare effects of monopoly

By reducing output and raising price above marginal cost, a monopolist captures some of the consumer surplus as profit and causes deadweight loss. This implies inefficiency and a loss in social welfare. Income distribution and fairness implications are also likely to be negative.

Monopoly and Public Policy
Preventing monopoly

To avoid social welfare loss, government policy attempts to prevent monopoly behavior. When monopolies are "created" rather than natural, governments can act to prevent them from forming and break up existing ones.

The government policies that prevent or eliminate monopolies are known as antitrust policy. If firms are trying to get together and create a monopoly, government gets involved to prevent mergers or collusion.
Monopoly and Public Policy
Dealing with natural monopoly

If there is a natural policy, it cannot be broken up without raising average costs. Also, one firm is likely to emerge as the only seller. Three approaches:

1. **Public ownership.** Government ownership of utilities, transportation. Sometimes works well, reducing welfare loss. But publicly owned companies often create inefficiencies because they have high costs (managers don’t try to keep costs down) and they are open to political pressures, for instance, to keep employment high.

2. **Price regulation.** Common in the US. A price ceiling imposed on a monopolist does not create shortages as long as it is not set too low.

3. **Doing nothing:** monopoly is a bad thing, but the cure may sometimes be worse than the disease. Politicization of prices. Not knowing what is the correct cost. Cost padding by regulated firms. But doing nothing results in welfare losses.

Price Discrimination

So far we examine only **single-price monopolist**, one who charges all consumers the same price. Not all monopolists do this.

In fact, many monopolists find that they can increase their profits by charging different customers different prices for the same good: they engage in **price discrimination**.

Price discrimination is **possible** if there are two or more groups of potentially customers who can be easily distinguished and who cannot resale what they buy to each other. It is **profitable** if the groups of customers have different characteristics – such as how elastic their demand is or how much they are willing to pay.

Example: airline tickets for businesses and students.

Price Discrimination, cont.

It is profit-maximizing to charge higher prices to low-elasticity consumers and lower prices to high elasticity ones. Discriminating monopolists can charge more than two prices to different sets of customers. Example with three prices.

By increasing the number of different prices charged, the monopolist captures more of the consumer surplus and makes a large profit.

Perfect Price Discrimination

In the case of perfect price discrimination, a monopolist charges each consumer his or her willingness to pay; the monopolist’s profit is given by the shaded triangle. There is no deadweight loss!