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Price-Searcher Markets with High Entry Barriers

Full Length Text — Part: 5 Chapter: 23
Micro Only Text — Part: 3 Chapter: 11

To Accompany "Economics: Private and Public Choice 12th ed."
James Gwartney, Richard Stroup, Russell Sobel, & David Macpherson
Slides authored and animated by:
James Gwartney, David Macpherson, & Charles Skipton


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Why are Entry Barriers Sometimes High?

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Entry Barriers

- A few examples of factors that may serve as **'barriers'** to free entry into a market:
 - economies of scale
 - government licensing
 - patents
 - control over an essential resource

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The Characteristics of a Monopoly

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Monopoly

- **Monopoly** is a market with:
 - high entry barriers, and,
 - a single seller of a well-defined product for which there are no good substitutes.
- Only a few markets exist with a single seller, but they are nonetheless worth studying.
 - The monopoly model helps us understand markets such as those for cable television and local phone service.
 - Monopoly theory also enhances our understanding of markets with only a few sellers.

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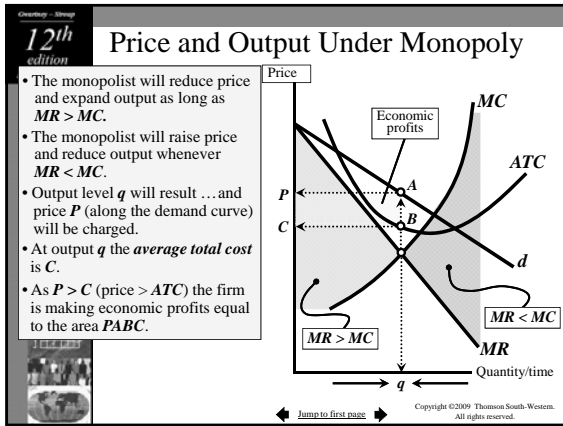


Price and Output Under Monopoly

- As there is only one producer of a good or service in a market with a monopoly, the market demand curve *is* the monopolist's **demand curve**.
- In order to maximize its profits, a monopolist will expand its output until **marginal revenue** just equals **marginal cost**.
 - The monopolist will charge the price along the **demand curve** consistent with that level of output.

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Price and Output Under Monopoly

- A monopolist will reduce price and expand output as long as $MR > MC$.
- As the monopolist reduces price and expands output, profits increase as long as $MR > MC$.
- Here an output of 8 a day will maximize profits.

Output (per day) (1)	Price (per unit) (2)	Total revenue (1) x (2) = (3)	Total costs (per day) (4)	Profit (3) - (4) = (5)	Marginal cost (6)	Marginal revenue (7)
0	---	---	\$50.00	-\$50.00	---	---
1	\$25.00	\$25.00	\$60.00	-\$35.00	\$10.00	< \$25.00
2	\$24.00	\$48.00	\$69.00	-\$21.00	\$9.00	< \$23.00
3	\$23.00	\$69.00	\$77.00	-\$8.00	\$8.00	< \$21.00
4	\$22.00	\$88.00	\$84.00	\$4.00	\$7.00	< \$19.00
5	\$21.00	\$105.00	\$90.50	\$14.50	\$6.50	< \$17.00
6	\$19.75	\$118.50	\$96.75	\$21.75	\$6.25	< \$13.50
7	\$18.50	\$129.50	\$102.75	\$26.75	\$6.00	< \$11.00
8	\$17.25	\$138.00	\$108.50	\$29.50	\$5.75	< \$8.50
9	\$16.00	\$144.00	\$114.00	\$30.00	\$6.25	< \$6.00
10	\$14.75	\$147.50	\$119.00	\$28.50	\$6.50	< \$3.50

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Profits Under Monopoly

- High entry barriers protect monopolists from competitive pressures.
 - Monopolists can earn long-run profits.
- However, even a monopolist will not always be able to earn profit.
 - When ATC is above the demand curve at all possible output rates, the monopolist will be unable to cover costs (unable to earn a profit).

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When a Monopolist Incurs Losses

- A monopolist will set output equal to q , where $MR = MC$
- Note that at this level of output, the price that the monopolist charges does not cover the *average total cost* of producing the output ($P < C$).
- Whenever the *ATC* curve lies always above the *demand* curve, the monopolist will incur short-run losses.
- In this diagram the firm is making economic losses equal to the shaded area, *CABP*.
- Under these conditions the monopolist will not continue in business.

Price

Quantity/time

Short-run losses

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Questions for Thought:

1. What makes a firm a monopoly?
2. Do monopolists charge the highest possible price for which they can sell their products? Do they maximize their average profit per sale? Are monopolies always profitable?
3. "Barriers to entry are high under monopoly but low in competitive price-searcher markets." -- Is this statement *true*?
4. Which of the following is true under monopoly?
 - a. If the monopolist is making economic profit, new firms will be attracted into the market.
 - b. The monopolist will have little or no incentive to produce efficiently (at a low cost).

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The Characteristics of an Oligopoly

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Characteristics of Oligopoly

- A few characteristics of *oligopoly*:
 - small number of rival firms
 - interdependence among firms
 - substantial economies of scale
 - significant barriers to entry
 - products may be identical or differentiated

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Economies of Scale and Oligopoly

- An oligopoly exists in the auto industry because firms do not fully achieve the lower costs of large-scale operations until they produce about one-sixth of total market output.
- What does the exhibit below suggest about the costs of firms that produced one-tenth of the total market?
- What about firms that produced more than half the market?

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Price and Output Under Oligopoly

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Price and Output Under Oligopoly

- No general theory exists for price and output under oligopoly.
 - If the firms operated independently, they would drive down the price to the per-unit cost of production.
 - If the firms colluded perfectly, the price would rise to the monopoly price.
- The outcome is usually between these two extremes.

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Price and Output Under Oligopoly

- If oligopolists compete with one another, price cutting drives price down to P_C , and expands total output to Q_C .
- In contrast, perfect cooperation among firms leads to a higher price P_M and a smaller market output of Q_M .
- Due to the difficulty to perfectly collude, when firms try to coordinate their activity, price is typically between P_C and P_M and output between Q_M and Q_C .

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Incentive to Collude

- Oligopolists have a strong incentive to collude and raise their prices.
- However, each firm also has an incentive to cheat by lowering price because the demand curve facing each firm is more elastic than the market demand curve.
- This conflict makes collusive agreements difficult to maintain.

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Gaining from Cheating

- Using industry *demand* D_i and *marginal revenue* MR_i , oligopolists maximize their joint profit where $MR_i = MC$ – at output Q_i and price P_i .
- The *demand* facing each firm d_f (where no other firms cheat) would be much more elastic than the industry *demand* D_i .
- The firm maximizes its profit where $MR_f = MC$ by expanding output to q_f and lowering its price to P_f from P_i .

Price
Quantity/time

Industry

Price
Quantity/time

Firm

Individual firms have an incentive to cheat by cutting price to expand output.

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Obstacles to Collusion

- As the number of firms in an oligopolistic market increases, the likelihood of effective collusion declines.
- When it is difficult to detect cheating (*secret price cuts*), effective collusion is less likely.
- Low entry barriers also make effective collusion less likely because profit attracts additional rivals.
- Unstable demand conditions lead to honest differences among firms about the size of shares and price that maximizes total profit.
- Rigorous enforcement of antitrust law makes collusion *potentially* more costly.

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Questions for Thought:

- Which of the following is the best example of an oligopolist?
 - McDonald's, a fast food restaurant chain
 - Boeing, a large aircraft manufacturer
 - Wal-Mart, a large retailing firm
- What makes a market oligopolistic?
- When are oligopolists likely to collude? Why is it impossible to construct a general theory of output and price for an oligopolist?
- If oligopolists collude and raise price, what must they do to output? How will this affect their ability to collude? Why?

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Questions for Thought:

5. Because the demand curve of firms is more elastic than the industry demand curve, an oligopolist (or cartel member) will be able to gain by secretly raising its price above the price that maximizes the joint profits of the firms in the industry.
– Is this *true or false*?

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Market Power and Profit: *The Early Bird Catches the Worm*

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Market Power and Profit

- Just because a firm earns economic profit does not mean that ownership of the firm's stock will be more profitable.
- The value of any profit resulting from **market power** will be capitalized into the stock price.

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Defects of Markets with High Entry Barriers

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Defects of Markets with High Entry Barriers

- When entry barriers are high and there are few, if any, alternative suppliers, the discipline of market forces is weakened.
- **Allocative inefficiency:**
A firm with market power may reduce output and set price above both *ATC* and *MC*. As a result, the firm fails to supply units that are valued more than their *marginal cost*.
- Government grants of monopoly encourage **rent seeking**.
 - Resources will be wasted by firms attempting to secure and maintain market protection.

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Policy Alternatives When Entry Barriers are High

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Natural Monopoly

- A **natural monopoly** exists when **long-run average total costs** continue to decline as firm size increases over the entire range of market demand.
- With natural monopoly, the larger firm always has a lower per unit cost. Thus, a single firm will dominate the market.
- Examples include cable television, local telephone service, and local electric power and water distribution.

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Monopoly: Policy Alternatives

- When monopoly is present, the following are the major policy alternatives:
 - Design antitrust policy to increase the number of firms in the industry.
 - Relax regulations that limit entry and reduce competition.
 - Reduce regulations that limit competition from foreign firms (e.g. *tariffs and quotas*).
 - Regulate prices charged by protected producers.
 - Supply market with government production.

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Regulation of a Monopolist

- An unregulated monopolist with the cost structure here produces where $MR = MC (Q_0)$ and charges price P_0 .
- From an efficiency viewpoint, this output is too small and the price is too high. Why?
- If a regulatory agency forces the monopolist to reduce its price to P_1 (*average cost pricing*) the monopolist expands output to Q_1 .
- Ideally, we would like output to be expanded to Q_2 where $P = MC$ (*marginal cost pricing*), but regulatory bodies do not usually attempt to keep prices as low as P_2 . Can you explain why?

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Problems with Government Intervention

- Problems with **price regulation**:
 - Lack of information – do regulators know the cost structures behind the firm's real *ATC*?
 - Cost shifting – with $P = ATC$, do monopolists have much incentive to keep costs low?
 - Special interest influence – will monopolists have an incentive to influence the decisions of regulatory bodies?

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Problems with Government Intervention

- Problems with **government production**:
 - less incentive to minimize costs and adopt new technologies
 - fewer incentives to satisfy customers, improve quality, and introduce new products
 - political considerations may influence the decision making of the firm

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Pulling It All Together

- With unregulated monopoly, output is too small and price is too high.
- When economies of scale are important, antitrust policy that increases the number of firms will lead to higher per-unit costs.
- Ideal outcomes are unlikely to be achieved through either price regulation or government operation of the firm.
- When feasible, reduction of artificial entry barriers is the most attractive alternative.

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The Competitive Process in the Real World

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Competition

- Competitive forces are present even in markets with high entry barriers.
 - Product-quality competition and the development of viable substitutes are important elements of the competitive process.
 - *Dynamic competition*: profitability and high prices encourage innovation and technological change.
 - In recent decades, lower transportation and communication costs have *broadened markets* and increased competition.

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Questions for Thought:

1. How will high market entry barriers influence:
 - (a) the long-run profitability of the firms,
 - (b) the cost efficiency of the industry's firms,
 - (c) the likelihood that some inefficient (*high cost*) firms will survive, and,
 - (d) entrepreneurs' incentives to develop substitute products?

Are competitive pressures present in markets with high barriers to entry?

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Questions for Thought:

2. Consider a market where the cost of providing a good continuously declines as output is expanded. Would anti-trust legislation improve performance in this market? What regulation would improve the efficiency of such a market?
3. Which of the following best explains why monopoly is harmful from the viewpoint of economic efficiency?
 - a. Units of output that are valued more highly than their cost will not be produced by a profit maximizing monopolist.
 - b. A profit maximizing monopolist will produce an output that is too large.
 - c. An unregulated monopolist will have little incentive to produce efficiently (*at a low cost*).

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Questions for Thought:

4. Why is oligopolistic collusion more difficult when there is product variation than when the products of all firms are identical?
5. What is natural monopoly? Why is competition difficult to maintain when natural monopoly is present?
6. Is the U.S. economy more competitive or less competitive than was the case 50 years ago? What are some of the factors that have altered the competitiveness of markets in recent decades?

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**End
Chapter 23**

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