

Microeconomics

Topic 7: “Contrast market outcomes under monopoly and competition.”

Reference: N. Gregory Mankiw’s *Principles of Microeconomics*, 2nd edition, Chapter 14 (p. 291-314) and Chapter 15 (p. 315-347).

Types of Market Structure

A market is a set of sellers and buyers whose behavior affects the price at which a good is sold.

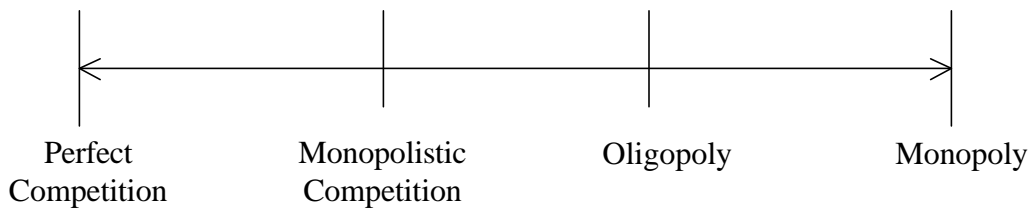
In this review we'll see that the type of market a firm operates in has a large impact on the firm's behavior. Firms have no control over price under perfect competition. But firms have tremendous control over price in a monopoly setting.

Economists describe different types of markets by:

- (1) the number of firms
- (2) whether the products of different firms are identical or different
- (3) how easy it is for new firms to enter the market.

The four major types of markets can be viewed on a continuum.

Figure 7-1



Perfect competition is at one extreme with many small firms selling identical products. Monopoly is at the other extreme with just one firm. The intermediate cases are monopolistic competition (which involves many small sellers producing slightly differentiated products) and oligopoly (which involves a small number of large firms).

Most U.S. firms operate under monopolistic competition (e.g., novels, movies, clothing, etc.) or oligopoly (tennis balls, crude oil, automobiles, etc.). However, this review will focus on the two extremes: perfect competition and monopoly.

There are three conditions required for perfect competition.

- (1) Numerous small firms and customers. The decisions of individual producers and buyers do not affect the price of the good.

- (2) Homogeneity of product. The products offered by sellers are identical. For example, wheat of a particular grade is homogeneous (while ice cream is not). If the product is homogeneous, consumers don't care from which firm they buy the good because their products are identical.
- (3) Freedom of entry and exit. There are no barriers to enter the industry, so new firms can compete with old ones relatively easily. They do not have to match the advertising of the existing firms to secure customers. Nor are there large fixed costs that require large investments in equipment before production can start. There is also freedom to exit, so firms can leave the industry if the business proves unprofitable.

These three conditions are infrequently met, so perfect competition is pretty rare in the U.S. One good example is a company's stock. There are millions of buyers and sellers, the shares are identical, and entry into the market is easy. Other examples include fishing and farming.

If this market structure is so rare, then why are we bothering to study it? First, perfect competition often provides a reasonable *approximation* of what happens in markets that are less than perfectly competitive. Second, perfect competition is the standard by which all other markets are judged. We will see that markets work most efficiently under perfect competition. It insures that the economy produces what consumers want while using society's scarce resources most effectively. By studying perfect competition, we will see what an ideally functioning market system can accomplish. Later on, we will see how far monopolies deviate from this ideal.

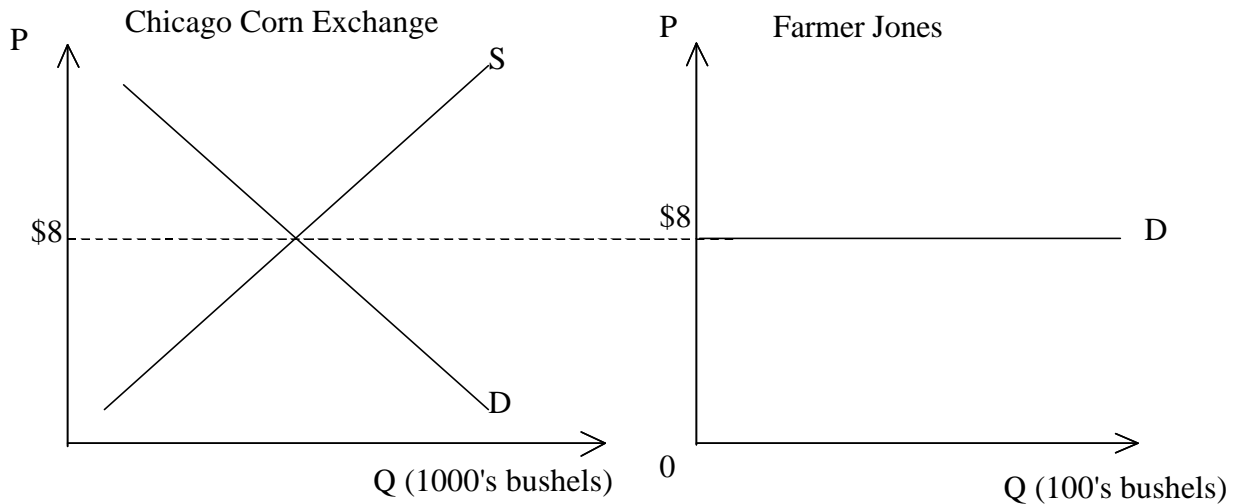
The Perfectly Competitive Firm and its Demand Curve

Under perfect competition, the firm must accept the price determined in the market. The firm is a price taker --it can produce as much or as little as it likes without affecting the market price. Each firm must match the price offered by its competitors because the products are identical. Otherwise, consumers will shift their purchases to another firm.

The price in the industry as a whole, which is comprised of all the individual firms and consumers, is determined by supply and demand. For a basic discussion of supply-and-demand, see the notes for Micro Topics 3 and 4.

Figure 7-2 shows how a single firm's demand curve results from the price on the market as a whole.

Figure 7-2



The graph on the left-hand side shows the whole market for corn (the Chicago Corn Exchange). It is a standard supply-and-demand graph. Supply and demand together result in the market price, which in this case is \$8.

The graph on the right-hand side shows the situation of Farmer Jones, who operates one farm in this industry. Since this is a perfectly competitive industry, Farmer Jones takes the market price as given. She can sell as much or as little as she likes at prevailing market prices. She can double or triple her production with no effect on the market price of corn. There are thousands of other corn farmers, so if Jones doesn't like the price and holds back her production, it won't affect the market price. Thus, Farmer Jones's demand curve is horizontal at the market price, which in this example is \$8.

Profit Maximization by the Perfectly Competitive Firm

Farmer Jones wants to maximize her profit. To do this, she needs to consider both revenues and costs. Table 7-1 summarizes the relevant revenues and costs for her farm:

Table 7-1

Quantity (1,000's bushels)	Total Revenue (\$1,000's)	Marginal Revenue (dollars)	Total Cost (\$1,000's)	Marginal Cost (dollars)	Total Profit (\$1,000's)
0	0	-----	10	-----	-10
10	80	8	85	7.5	-5
20	160	8	150	6.5	10
30	240	8	180	3.0	60
40	320	8	230	5.0	90
50	400	8	300	7.0	100
60	480	8	450	15.0	30

70	560	8	700	25.0	-140
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The concepts of Total Cost (TC) and Marginal Cost (MC) are defined and explained in the notes for Micro Topic 6. Here are definitions of the revenue terms.

Total Revenue (TR) is the total amount of money the firm receives from sales of its product. To find TR, multiply the price by the quantity sold: $TR = P \times Q$. (In Table 7-1, notice that TR is always equal to the quantity multiplied by \$8, which is the market price.)

Marginal revenue (MR) is the change in TR that results from increasing output by 1 unit. Mathematically, $MR = \Delta TR / \Delta Q$, where Δ (the Greek letter delta) stands for the change in something. Usually, ΔQ is equal to one, but sometimes we have to deal with larger changes in quantity.

In Table 7-1, output doesn't increase by just 1 bushel at a time, but by 10,000 bushels. To calculate MR, we have to divide the change in TR by the change in quantity. For instance, when Q increases from 10,000 to 20,000 bushels, the TR increases from 80,000 to 160,000. So $MR = \Delta TR / \Delta Q = (160,000 - 80,000) / (20,000 - 10,000) = 8$.

Notice that the MR is always \$8, the price of one bushel of corn. This is always true for a perfectly competitive firm, because the firm's choice of quantity does not affect the price. If the output increases by 1 bushel, then the firm still receives the same price of \$8 per bushel, and its revenue increases by exactly \$8.

For a perfectly competitive firm, MR is always equal to the market price.

The last column of Table 7-1, profit, is found by using $\text{Profit} = TR - TC$.

The farmer will pick the output level that maximizes her profits. This occurs when TR and TC are furthest apart, at the output of 50,000 bushels. There is a rule for determining the level of output that yields the highest possible profit. This rule holds true for *all* firms (including monopoly) and not just those under perfect competition.

Rule for finding the profit maximizing level of output

If $MR > MC$, then profit can be raised by increasing the quantity of the output.
 If $MR < MC$, then profit can be raised by reducing the quantity of output.
 Thus, the highest profit is attained at the output level where $MR = MC$.

Under perfect competition, $MR = \text{price } (P)$, so we can be more specific:

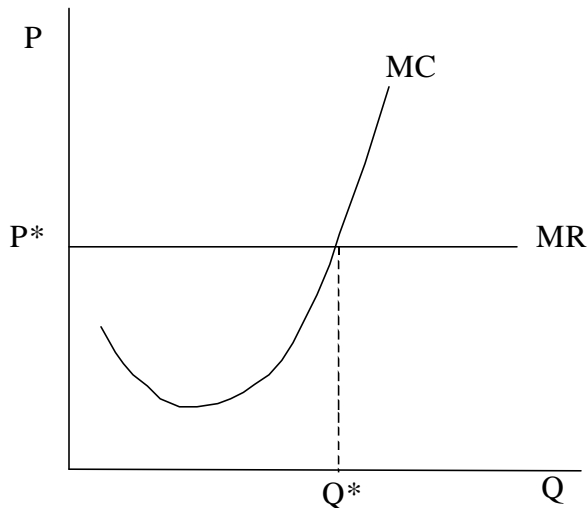
Rule for finding the profit maximizing level of output under perfect competition

If $P > MC$, then profit can be raised by increasing the quantity of the output.
 If $P < MC$, then profit can be raised by reducing the quantity of output.

Thus, the highest profit is attained at the output level where $P = MC$.

Graphically, it looks like this:

Figure 7-3



In our example, there is no quantity where $MR = MC$ exactly, so we want to get as close as we can. Profit is highest when $MR \geq MC$ at the output of $Q = 50,000$ bushels. (If the next 10,000 bushels were produced, profit would fall by \$70,000 because the MR is \$8 while the MC is \$15.) So, in our example, $P^* = 8$ and $Q^* = 50,000$ in Figure 7-3.

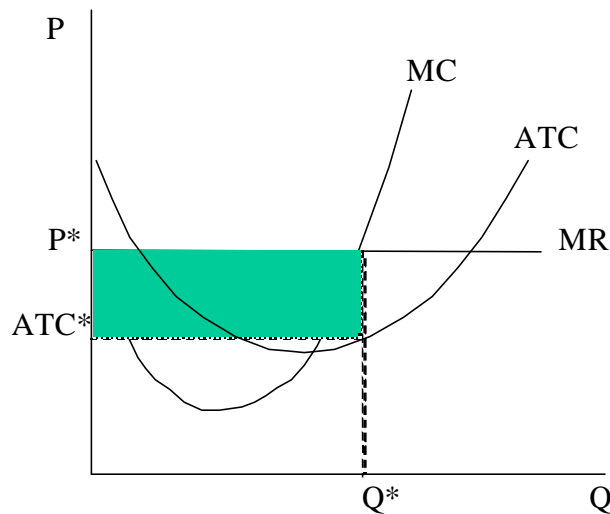
To find the profit at the chosen quantity, just use $\text{Profit} = TR - TC$. But to see the amount of profit graphically, we will express profit in a different way. Since $ATC = TC/Q$ by definition (as explained in the Micro Topic 6 notes), it must also be true that $TC = ATC \times Q$. We also know that $TR = P \times Q$. So now we can say:

$$\text{Profit} = TR - TC = P \times Q - ATC \times Q = (P - ATC) \times Q$$

What does this mean? $(P - ATC)$ is the profit per unit of output, and you multiply this by the number of units sold (Q) to get profit. In our example, $ATC = TC/Q = \$300,000/50,000 = \6 and $P = \$8$, so the profit per unit is \$2. Multiply this by $Q = 50,000$ to get a profit of \$100,000.

Graphically, profit looks like this:

Figure 7-4



Notice that we didn't need the ATC curve to find the profit-maximizing quantity Q^* , but we do need ATC to show the amount of profit made. The profit is equal to the shaded rectangle, which you should notice is the quantity Q^* multiplied by the profit per unit, $(P^* - ATC^*)$.

Profits versus Losses

In both Table 7-1 and Figure 7-4, we have a firm making profit. The firm makes profits if $P > ATC$. But if $P < ATC$, the firm incurs losses.

Suppose the price of a bushel is \$4 and the relevant data is displayed for a farm below.

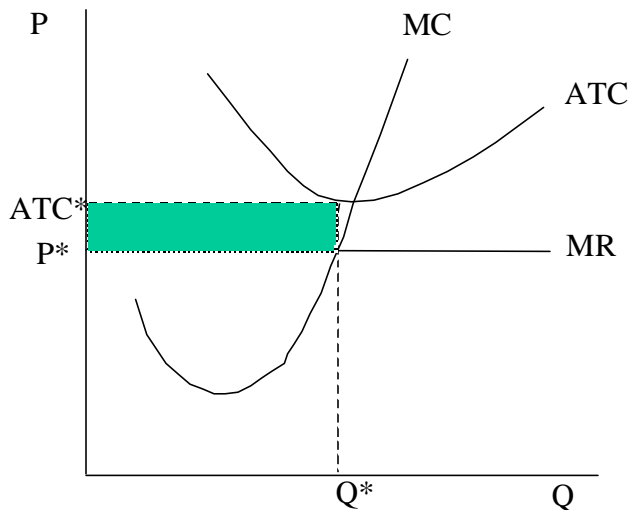
Table 7-2

Quantity (1,000's bushels)	Total Revenue (\$1,000's)	Marginal Revenue (dollars)	Total Cost (\$1,000's)	Marginal Cost (dollars)	Total Profit (\$1,000's)
0	0	-----	35	-----	-35
10	40	4	65	3.0	-25
20	80	4	90	2.5	-10
30	120	4	125	3.5	-5
40	160	4	170	4.5	-10
50	200	4	220	5.0	-20
60	240	4	275	5.5	-35
70	280	4	335	6.0	-55

In Table 7-2, there is no point where $MR = MC$ exactly, but the closest point is where $MR \geq MC$ at 30,000 bushels. This level of output minimizes the firm's losses. The total

loss is \$5,000, which equals the per unit loss ($ATC - P$) of $\$0.167 \times$ the quantity of 30,000. Graphically, it looks like this:

Figure 7-5



The shaded area in Figure 7-5 shows losses. Since the ATC curve lies above the price, it is clear that the firm is losing money. But it would lose even more money if it produced a quantity other than Q^* . This means that $MR = MC$ is still the right decision rule to use when selecting the firm's output level.

The Shutdown Decision

It is possible, however, that it would be better for the firm to produce nothing at all. Firms can't endure losses forever. The decision to shut down involves a comparison between short-run fixed costs (FC) and variable costs (VC). These concepts are explained in the Micro Topic 6 notes.

Recall that the FC cannot be avoided in the short run. The firm must pay its FC whether it stays open or shuts down. If the firm shuts down, $TR = 0$ and $VC = 0$, but the FC (or sunk costs) remains. Sometimes it is better to remain in operation until the fixed costs expire.

There are three rules that govern the shutdown decision. Note: these rules hold for *all* firms (including monopoly) and not just perfectly competitive firms.

Rules for deciding whether to stay open or shut down

Rule 1: If $TR > TC$, then the firm earns positive profits, so it should remain open in both the short run and the long run.

Rule 2: If $TR < TC$ (the firm is making losses), but also $TR > VC$ (the firm is making enough revenue to cover its variable costs), then the firm should stay open in the short run, but should plan to shut down in the long run.

Rule 3: If $TR < TC$ (the firm is making losses) and also $TR < VC$ (the firm is not making enough revenue to cover its variable costs), then the firm should shut down immediately.

If the reasoning behind Rules 2 and 3 is not obvious, here is a proof:

Loss if the firm stays in business = $TC - TR$
 Loss if the firm shuts down = $FC = TC - VC$
 So the firm should stay open in the short run if
 $TC - TR < TC - VC$
 or $TR > VC$.

For example, consider the revenue and cost information for two firms.

Table 7-3

(\$1,000's)	Firm A	Firm B
TR	100	100
VC	80	130
FC	60	60
TC	140	190
Loss if firm closes	60	60
Loss if the firm stays open	40	90

Both firms have the same TR and FC, but they differ in the amounts of their VC and hence TC. Both firms should plan to shut down in the long run because $TC > TR$. However, firm A should remain open in the short run. By continuing to operate in the short run it earns \$20,000 in TR above VC, and this money can go toward payment of the fixed cost. It makes a loss of \$40,000, but that's better than a loss of \$60,000. On the other hand, firm B should plan to close immediately. By continuing to operate in the short run, it adds \$30,000 in losses (the excess of VC above TR). By shutting down, the firm misses out on revenues of \$100,000, but it also avoids \$130,000 in variable costs. Its losses will be equal to its FC of \$60,000.

There is one more thing you should know about the shutdown decision. Since $TR = P \times Q$ and $VC = AVC \times Q$, we can restate the shutdown rules as follows:

Alternate version of rules for deciding whether to stay open or shut down

Rule 1: If $P > ATC$, then the firm earns positive profits, so it should remain open in both the short run and the long run.

Rule 2: If $P < ATC$ (the firm is making losses), but also $P > AVC$ (the firm is making enough revenue to cover its variable costs), then the firm should stay open in the short run, but should plan to shut down in the long run.

Rule 3: If $P < ATC$ (the firm is making losses) and also $P < AVC$ (the firm is not making enough revenue to cover its variable costs), then the firm should shut down immediately.

From the Individual Firm to the Market Supply

Remember that the market supply curve represents the choices of all firms in a market. We have just finished discussing the choices of a single firm in a market. Obviously, the two are related. The choices of many individual firms “add up” to the market supply curve.

To be more specific, notice that a single firm always produces at a point on its MC curve (unless it shuts down). The MC curve is actually the individual firm’s supply curve if the firm stays open. If you add up all the firms’ MC cost curves, you’ll find the market supply curve. You won’t be expected to know how to do this mathematically, but you should understand this important result: the market supply curve represents the marginal cost of producing units of a good. The short-run market supply curve has a positive slope because all of the individual firms have MC curves that slope upward.

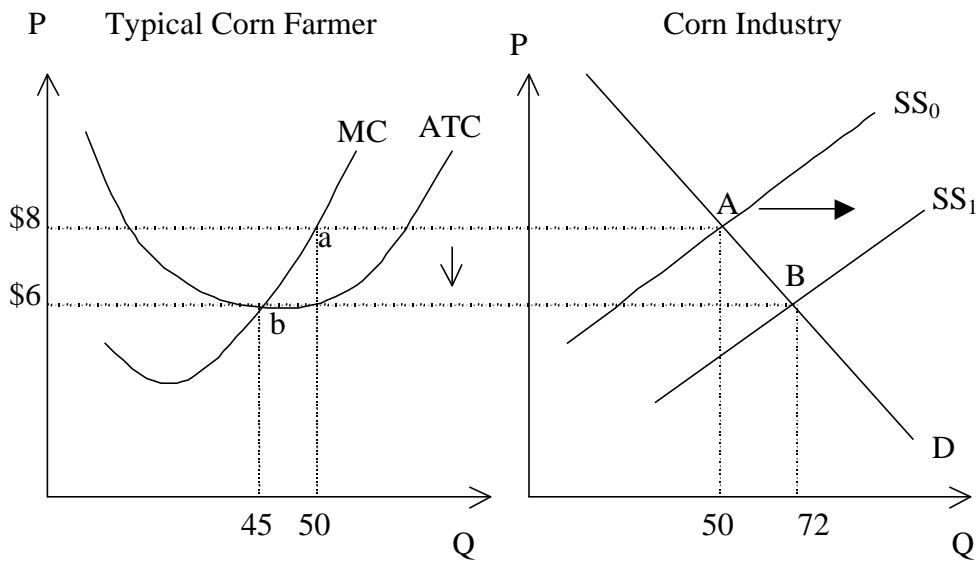
The entry of new firms would shift the short-run market supply curve right, and the exit of old firms would shift it left.

Perfect Competition in the Long Run

The long-run market equilibrium may differ from the short-run market equilibrium because the number of firms may change. Firms enter or exit the industry based on profits earned in the industry. If short-run profits are greater than zero, new firms are lured into the industry. Alternatively, short-run losses encourage existing firms to exit.

If firms earn high profits in an industry, then new firms enter, forcing the market price down as the short-run market supply curve (SS) shifts out, as shown in Figure 7-6.

Figure 7-6



At point a, the typical corn farmer is earning short-run profits. This encourages new firms to enter the industry, which shifts the short-run market supply curve (SS) out, thereby reducing the market price from \$8 to \$6. Entry continues until all profits are competed away and we reach the long-run equilibrium point b. At this point, the typical firm earns zero profits and produces where $P = MC = ATC$.

Note: there are no profits in the long run. If short-run profits exist then new firms enter and force the price down until all of the profits are competed away. On the other hand, short-run losses encourage existing firms to leave the industry, which forces prices up until all losses are gone. In the long run, competitive firms produce where $P = MC = ATC$. Graphically, this occurs at the minimum point on the ATC curve (point b).

Another way to think about all of this is in terms of a long-run market supply curve. The short-run market supply curves in Figure 7-6 only take into account the firms already in an industry. A long-run market supply curve, on the other hand, takes entry and exit into account. The long-run market supply curve will naturally be flatter (more elastic) than a short-run market supply curve, because entry-and-exit means that more firms respond to any change in price. For example, suppose a shift in demand causes the market price to rise, which creates profits. In the short run, only existing firms can take advantage of the rise in price by increasing their output. But in the long run, more firms enter the industry, so there is a larger effect on total output.

You will not be expected to derive a long-run market supply curve. But you should understand that when firms have a longer period of time to adjust, the supply curve would be flatter.

Zero Economic Profit Under Perfect Competition

Why do firms stay in the industry if profits are zero in the long run? Because we are talking about economic profit, which is not the same as accounting profit. A firm making zero economic profit would be making positive accounting profit. For more explanation of this topic, see the notes for Micro Topic 1.

Zero economic profit indicates that firms are earning the normal economy-wide rate of profit (in the accounting sense). An industry whose capital receives a higher rate of return than capital invested elsewhere attracts capital into the industry. This shifts the short-run market supply curve out and reduces prices until economic profit equals zero. If capital invested in an industry receives a lower return than capital invested elsewhere, then funds dry up in the industry. This shifts the short-run market supply curve inward, which raises prices until economic profits return to zero.

Perfect Competition and Economic Efficiency

Perfect competition leads to great efficiency for two reasons.

First, the price ends up being equal to a firm's marginal cost ($P = MC$), as explained earlier. This means that customers keep buying more of the product as long as the dollar value of consuming the good is greater than the additional cost of producing it. If the price were higher than MC, customers would buy less of the product, even though consuming more would produce added benefits greater than the added costs. That would be inefficient.

Second, in the long run competitive firms must produce where price equals the lowest point on their ATC curve. This means the product is produced at the lowest possible cost per unit. To put it another way, the output of competitive industries is produced at the lowest possible cost to society.

Monopoly

We have just described an idealized market system in which all firms are perfectly competitive. Now we turn to one of the blemishes of the market system -- the possibility that some industries may be monopolized -- and the consequences of such a flaw in the market system.

Definition of a pure monopoly:

- (1) There is only one firm in the industry.
- (2) There are no close substitutes for the good the firm produces.
- (3) There is some reason why the entry and survival of a competing firm is unlikely.

Thus, even the sole provider of natural gas in a city is not considered a pure monopoly, since other firms provide substitutes like heating oil and electricity.

Pure monopolies are rare in the real world, because most firms face competition from firms producing substitute products. If there is only one railroad, it still competes with

bus lines, trucking companies, and airlines. The producer of a brand of soda may be the only supplier of that particular soda, but it competes with other soda makers.

If pure monopoly is so rare, then why do we bother to study it? Because like perfect competition, pure monopoly is easier to analyze than the more common market structures of oligopoly (i.e., a few large producers) or monopolistic competition (i.e., many small firms producing slightly differentiated products). In addition, the “evils of monopoly” stand out more clearly when we consider monopoly in its purest form. This clarity will allow us to understand why governments rarely allow unfettered monopolies to exist.

Causes of Monopoly: Barriers to Entry

Preservation of a monopoly requires keeping potential rivals out of the market. There must be some specific impediment to the establishment of new firms in the industry -- such impediments are called “barriers to entry.” Some examples are:

(1) Government-created monopolies: Monopolies are established if the government prevents other firms from entering the industry. For example, a local government might license only one cable TV supplier or one food stand operator in a public stadium. Another example of a government-created monopoly is a patent. To encourage inventiveness, the government gives the exclusive production rights for a period of time (usually 20 years) to the inventors of certain products. As long as the patent remains in effect, the firm has a protected monopoly. For example, for many years Xerox had a monopoly in plain paper copying. Pharmaceutical companies get monopolies on the drugs they develop.

(2) Control of a scarce resource or input: If a good is produced only by using a rare input, a company that gains control of the source of that input can establish a monopoly position for itself. For example, the DeBeers diamond syndicate controls the supply of the highest quality diamonds in the world.

(3) Natural monopoly: A natural monopoly is an industry in which the advantages of large scale production make it possible for a single firm to supply the entire market output at a lower average total cost than a larger number of firms producing smaller quantities. As a result, one firm will “naturally” emerge as a monopolist in this kind of industry. Utilities like electricity and water are often natural monopolies.

The Monopolist's Supply Decision

We now consider the actions taken by monopoly in the absence of government intervention. First, it is important to understand that a monopoly does not have a supply curve. Unlike a perfectly competitive firm, a monopoly does not take the market price as given and then react to the price. Instead, it has the power to select the point on the market demand curve (a price-quantity pair) that maximizes its profits.

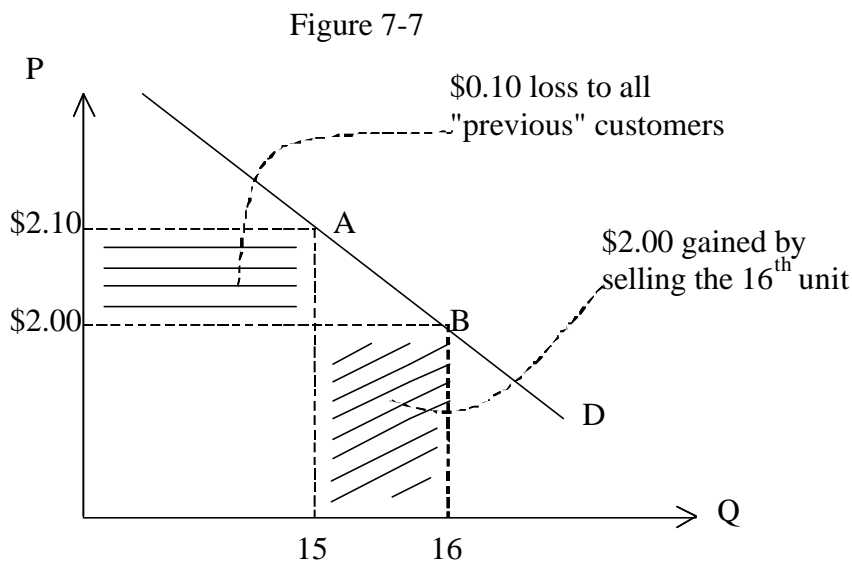
The demand curve that a monopoly faces (unlike that of a perfectly competitive firm) is downward sloping, not horizontal. So an increase in price will not cause the monopoly to lose all of its customers. But an increase in price does reduce the quantity demanded.

To maximize profit, the monopolist compares marginal revenue (MR) and marginal cost (MC). In this respect, the monopolist is just like a perfectly competitive firm. The difference is that we can no longer assume $MR = P$. In fact, it turns out that a monopolist's MR is *always* below the demand curve if the demand is downward sloping, so that $MR < P$.

Here's why. The monopoly charges the same price to all of its customers. If the firm wants to increase sales, it must reduce price to all customers, including those who would have bought at the higher price. Thus, the additional revenue that the monopolist takes in when sales increase by one unit is the price the firm collects from the new customer *minus* the revenue lost by cutting price to all of its "previous" customers. So MR is less than price.

MR was equal to price under perfect competition because the firm's demand curve was horizontal. The firm could expand its output without lowering its price.

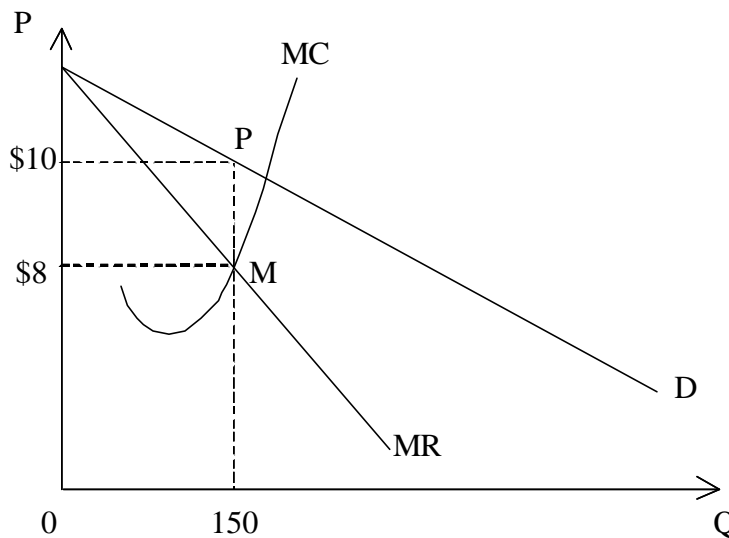
Consider the relationship between MR and price by examining the Figure 7-7.



Suppose a monopolist initially sells 15 units at a price of \$2.10 (point A) and then wants to increase sales by 1 unit. Price must fall to \$2.00 to sell the 16th unit (point B). How much revenue is gained at the margin? TR at A is \$31.50 and TR at B is \$32.00, so $MR = \$0.50$. But the price is \$2.00, so $P > MR$. Graphically, MR is the difference between the two shaded rectangles.

Consider the monopolist's output decision in Figure 7-8.

Figure 7-8



Notice that the MR is drawn below the demand curve (D). Like a perfectly competitive firm, the monopolist maximizes profit by setting $MR = MC$. It selects point M in Figure 7-8, where quantity is 150 units. But point M doesn't tell us the price charged by the monopolist, because $P > MR$. We must look at the demand curve to find the price at which consumers are willing to buy the 150 units. The answer is given at point P. The price of \$10 is higher than MR and MC, which both equal \$8.

In order to show the monopolist's profit, we would have to draw in its ATC curve. This is done in the same way we did it for perfect competition. Profit is still equal to $TR - TC$, or $(P - ATC) \times Q$. If $P > ATC$ at the profit-maximizing quantity, the firm is making a profit; if $P < ATC$, the firm is making a loss.

To summarize, here are the steps to analyze the price and quantity choices of a profit-maximizing monopolist:

- (1) Find the Q at which $MR = MC$ to select the profit maximizing output level.
- (2) Find the height of the demand curve at that Q to determine the corresponding price.
- (3) Compare the resulting price with the ATC at the profit-maximizing Q to determine whether the monopolist earns a profit or suffers a loss.

We can also determine the monopolist's profit-maximizing quantity and price numerically. Consider the data in Table 7-4 for a monopolist.

Table 7-4

Quantity	Price	Total Revenue	Marginal Revenue	Total Cost	Marginal Cost	Total Profit
0	-----	\$0	-----	\$10	-----	-\$10

1	\$140	140	\$140	70	\$60	70
2	107	214	74	120	50	94
3	92	276	62	166	46	110
4	80	320	44	210	44	110
5	66	330	10	253	43	77
6	50	300	-30	298	45	2

We can use Table 7-4 to bring out two important points.

(1) By comparing columns 2 and 4 we see that $P > MR$ after the first unit of output.

(2) By comparing columns 4 and 6 we see that profit is the highest (\$110) at 4 units of output where $MR = MC = \$44$.

Although the monopolist chooses a price-quantity pair on the demand curve to maximize profit, this does not mean that the monopolist earns positive profits. If it is inefficient and has high costs, or if demand is too low, it may incur losses and eventually shut down. However, if the monopoly does make economic profits, it can maintain these profits in the long run. Profits are not competed away by the entry of new firms as in the perfectly competitive industry, because there are barriers to entry now.

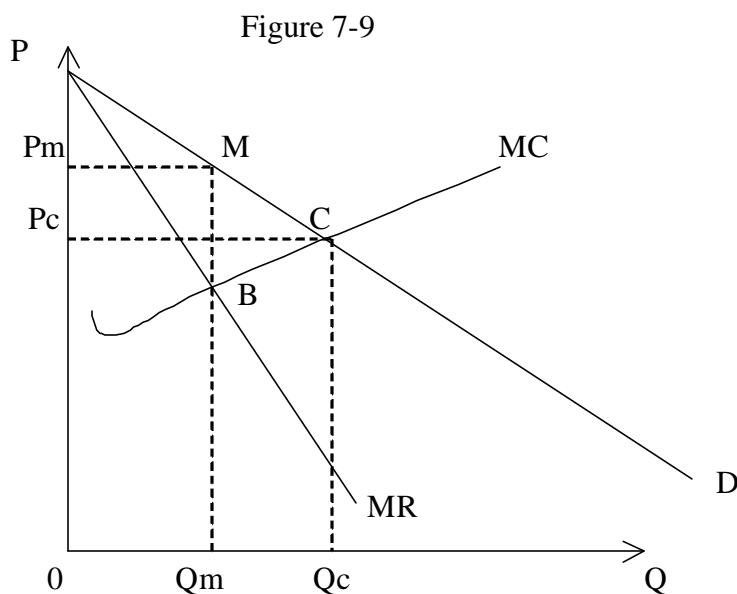
Comparison of Monopoly and Perfect Competition

We can now compare and contrast perfectly competition and monopoly. We will see that monopoly is inefficient in comparison to the idealized market structure of perfect competition.

There are two main problems with monopoly, and they correspond to the two main benefits of perfect competition explained earlier. We found that $P = MC$ and $P =$ lowest ATC under perfect competition. Both of these conditions fail under monopoly.

(1) Monopoly restricts output to raise price above marginal cost. Compared with the ideal of perfect competition, the monopolist restricts quantity and charges a higher price.

Imagine a court order that breaks apart a monopoly into a large number of perfectly competitive firms and that the industry demand and costs stay the same. These are somewhat unrealistic assumptions, but it allows us to compare the long-run price-quantity pair selected by monopoly versus perfect competition. Consider Figure 7-9 below.



The monopolist would maximize profit by picking quantity Q_m and price P_m (point M). But as we learned earlier, perfect competition would result in price equal to MC. The only place on the demand curve where price equals MC is at quantity Q_c and price P_c , so point C would result from perfect competition.

By comparing points M and C, we can see that the monopolist produces less output and charges a higher price than the perfectly competitive industry with the same demand and cost conditions. This is troubling, because it means that monopoly leads to an inefficient resource allocation. It would make sense to produce the units between Q_m and Q_c , because producing them would generate greater added value to consumers than added cost to producers. This is true because the demand curve is higher than the MC curve for units $Q_c - Q_m$.

Thus, resources are allocated inefficiently under monopoly, because too few resources are being used to produce the monopolized good. The reduction in welfare associated with the reduced monopoly output is called "deadweight loss." Graphically, the deadweight loss is the triangular area below the demand curve, above the MC, and between Q_m and Q_c . In Figure 7-9, the area MCB measures deadweight loss.

(2) A monopolist's profits persist. Barriers to entry create the second major difference between perfect competition and monopoly. Profits are competed away by entry into a perfectly competitive market. In the long run, firms can only hope to cover their costs, including the opportunity cost of capital and labor supplied by the firm's owners. But positive economic profits can persist under monopoly, if it is protected from competition by barriers to entry. The monopolist can grow rich at the expense of their customers. Such accumulation of wealth is objectionable to most people, and therefore monopoly is widely condemned. As a consequence, monopolies are often regulated by governmental agencies that try to limit the profits they can earn.