

10

MONOPOLISTIC COMPETITION AND OLIGOPOLY (HL ONLY)

10.1

Monopolistic competition: assumptions of the model

Learning outcomes

- Describe, using examples, the assumed characteristics of a monopolistic competition: a large number of firms; differentiated products; absence of barriers to entry and exit.



Shoes: they're not all alike, but they all serve essentially the same purpose.

We have so far looked at two extremes in the market: monopoly and perfect competition. Monopoly sits at one end of the spectrum of competition, with the most market power. Monopolies may be inevitable, but they have significant limitations to output and efficiency. Perfect competitors, at the other end of the spectrum, have no real market power, and offer significant efficiency of production and allocation. But they have little capacity for innovation or research because they earn no real long-run profits.

In this chapter, you are going to examine two models that are more commonly found in the real world: monopolistic competition and oligopoly. Our guiding principle of distinction, relative market power, is still in effect here. With that in mind, monopolistic competition can be seen as a step up from perfect competition in terms of market power whereas oligopoly is a step closer to the ultimate market power of a monopoly firm.

Monopolistic competition is a market where there are many firms producing differentiated products and in which there are no barriers to entry or exit.



A market is monopolistically competitive if there are many firms producing differentiated products and there are no barriers to entry or exit.

Sometimes markets move very quickly from monopolistic to monopolistically competitive. Just a few years ago there was one dominant maker of touch-screen smartphones, Apple. Today over 40 companies produce similar products, each with slightly different features (operating system, type of camera, size of screen). How does such product differentiation give firms like Apple, Samsung, Sony and HTC the power to set their own prices?



Monopolistic competition is based on the following assumptions.

- **Large number of relatively small firms.** This trait is shared with perfect competition, without being quite as extreme. The number of firms is high enough that it is unlikely, but not impossible, for one firm to influence the market. Cooperation between firms is not possible as there are too many firms for this to take place.
- **Relatively free entry and exit.** Like perfect competition, there are few barriers to entry and exit. It is rather easy to get into or out of the business.
- **Product differentiation.** This marks the most significant departure from perfect competition, where products are completely identical. Monopolistic competitors strive to differentiate their products in the hopes of deriving some market power (price-setting ability). Product differentiation occurs when consumers perceive a product as being different in some way from other substitute products. Firms differentiate products in a number of ways:
 - *appearance*: shape, colouring, materials, 'look and feel', as well as packaging can influence perceptions of a product
 - *service*: firms can be faster with assistance and sales, or offer additional help with home delivery, product guarantees, and more
 - *design*: products having the same function can be designed for more ease of use or with more fashionable styling
 - *quality*: variations in quality can bring higher or lower market power, depending on the good
 - *expertise/skill*: especially in service industries, the perceived level of skill can significantly differentiate one firm from another
 - *location*: some firms will benefit from location, such as the last gas station for one hundred kilometres, or exchange bureaus and convenience stores in airports
 - *brand reputation/image*: many firms spend advertising money persuading and reminding customers how their products are superior or priced well (creating a brand image can also differentiate one firm from another).

Examples of monopolistically competitive industries include nail salons, jewellers, car mechanics, plumbers, book publishing, clothing, shoes, gas stations, restaurants.

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HL EXERCISES

- 1 Apply the assumptions of monopolistic competition to three of the industries noted as monopolistically competitive.
- 2 List three more of your own examples, and note the ways in which these firms attempt to differentiate themselves from their competitors.

10.2

Demand and revenue curves for monopolistic competition

Learning outcomes

- Explain that product differentiation leads to a small degree of monopoly power and therefore to a negatively sloping demand curve for the product.



Monopolistic competition has a combination of the attributes of monopoly and perfect competition. However, the single distinguishing feature of monopolistic competition, when compared with monopoly, is product differentiation. The degree to which a firm can ‘create’ demand for its goods is the degree to which it can create market power, or price-setting ability. Figure 10.1a shows a perfectly competitive firm with no such power. It is a small firm in a massive market, and the price and demand curve for the firm is set in the overall market. Its demand curve is, therefore, perfectly elastic. Because goods in perfect competition are exact substitutes, any attempt to get a higher price will fail; none of the higher-price goods will sell.

In contrast, firms in the monopoly market face a downward-sloping demand curve (Figure 10.1b). This curve is relatively steep, suggesting a generally inelastic demand for the good. This comes from the fact that the monopolist is the only provider of the good, so no substitutes are available. Thus, demand is relatively more inelastic or rigid.

The firm showing monopolistic competition (Figure 10.1c) is viewed as a hybrid of the previous two. It is relatively elastic; consumers are price-sensitive because there are similar goods available from many producers. However, the firm that successfully differentiates its product may have inspired a belief that its goods are not exactly the same as other goods, and may be somewhat better.

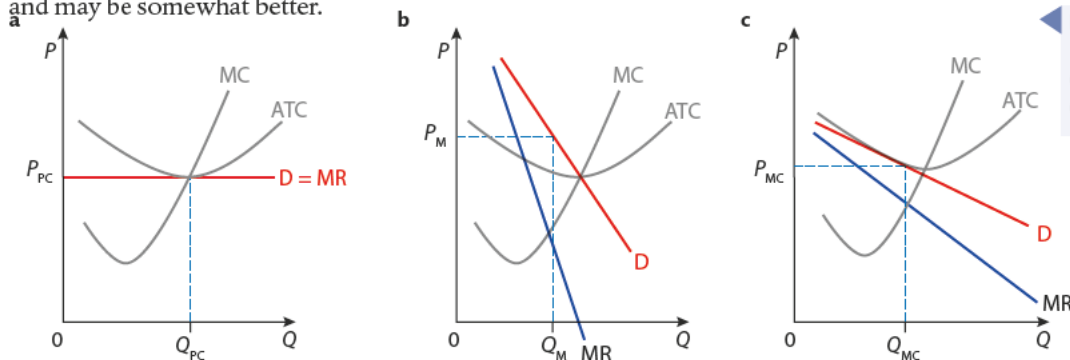


Figure 10.1
Demand for: **a** perfect competition; **b** monopoly; **c** monopolistic competition.

This gives us insight into the behaviour of the monopolistic competitor. A more steeply sloping demand curve, where demand is more inelastic, means more market power. It means more power to set higher prices and earn higher profits. A more inelastic demand for your good, it is logical to conclude, is highly desirable for your bottom line. Firms often advertise to persuade consumers of the uniqueness of a particular brand. By differentiation and advertising, a firm can make its product appear essential or necessary, and thus inspire brand loyalty and inelasticity of demand. Thus, firms can move demand for their product outwards, and make it steeper at the same time.

10.3 Profit maximization in monopolistic competition

Learning outcomes

- Explain, using a diagram, the short-run equilibrium output and pricing decisions of a profit-maximizing (loss-minimizing) firm in monopolistic competition, identifying the firm's economic profit (or loss).
- Explain, using diagrams, why in the long run a firm in monopolistic competition will make normal profit.

The monopolistic competitive firm operates under the same demand, revenue and costs situation as the monopolist, except for their much more elastic demand curve.

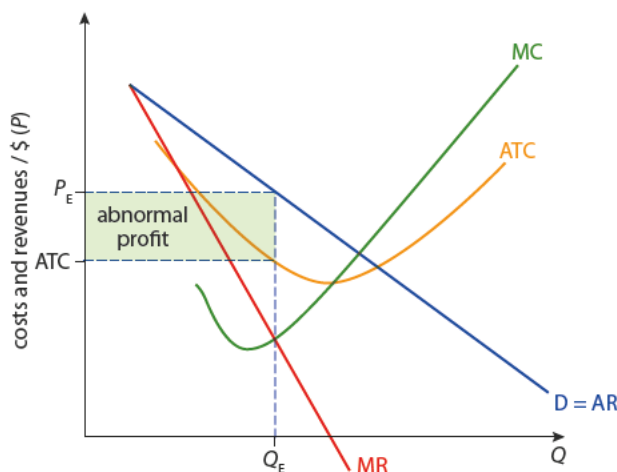
Profit and loss scenarios for the monopolistic competitor

- Short-run profits
- Adjustment to long-run normal profits
- Short-run losses
- Adjustment to long-run normal losses

Short-run profits

In the short run, a monopolistic competitor can earn economic profits. Figure 10.2 shows the monopolistic competitor producing quantity Q_E where marginal cost (MC) and marginal revenue (MR) are equal. Like the monopolist, the monopolistic competitor sets the price at that quantity by charging as much as the demand at that quantity will allow, P_E . At Q_E , average total costs (ATC) are below the price P_E , therefore economic profits are being earned. The area of the shaded box gives the total economic profit. In a numerical example, this could be calculated using the formula: total economic profit = $(AR - ATC) \times Q_E$.

Figure 10.2
Monopolistic competition,
short-run profits.



Adjustment to long-run normal profits

Because it is relatively easy to enter and exit the industry, the profit-making industry will get attention and new entrants rather immediately. When this occurs, the demand experienced by each individual firm will decrease, shifting demand to the left. This will cause MR to intersect MC at a smaller quantity, reducing output and profitability for the firms in the industry.

If economic profits are still present, this process of new entrants to the market will continue until all the economic profits have been eliminated. The long-run result is normal profits, as shown in Figure 10.3. Here, demand for the individual firms has shifted to the left so that it is only touching a portion of the ATC curve. Thus, only normal profits, which include all operational costs plus the opportunity costs of having the firm, are earned.

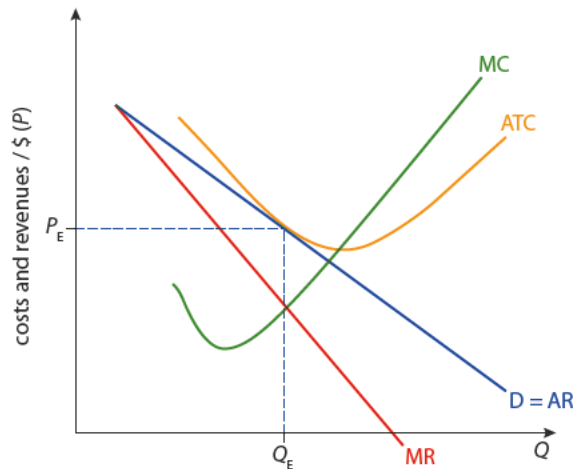


Figure 10.3
Monopolistic competition,
normal profit.

Short-run losses

The monopolistic competitor may also experience losses in the short run. Figure 10.4 shows the firm producing at the profit-maximizing/loss-minimizing point where $MR = MC$, and so producing Q_E output. The firm sets the price as high as demand will allow at P_E , but this still falls below the ATC experienced by the firm at this level of output. As a result, the firm is clearly making losses, shown by the area of the shaded rectangle.

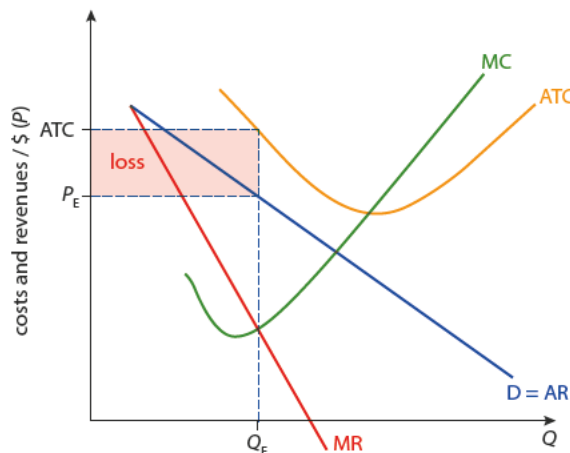


Figure 10.4
Monopolistic competition,
short-run losses.

Adjustment to long-run normal profits

Where firms are losing money, some will be forced to shut down. As firms shut down, the remaining demand is divided between fewer firms; thus the demand curve faced by each firm shifts to the right. This increases output because the new $MR = MC$ quantity will occur at a point to the right of the previous equilibrium. Also, because demand shifts upwards and outwards, the firms remaining in the market will experience a decrease in losses. This process will continue, with particularly weak firms shutting down, and demand increasing for the remaining firms, until a minimum of normal profits are attained. This would describe the long-run equilibrium, shown in Figure 10.3.

● Examiner's hint

Since the long run is basically a series of short runs and monopolistic competitors can earn profits in the short run by differentiating their products, continual differentiation may enable them to earn abnormal profits, even in the long run.

10.4

Price and non-price competition

Despite the higher prices we may pay under monopolistic competition compared to perfect competition, we may be better off because of the differentiation in this market. From fashion to electronics, hair stylists and restaurants, the non-price competition between monopolistic competitors makes life more varied and interesting than a life full of the cheap, homogeneous products provided by perfectly competitive markets.

Learning outcomes

- Distinguish between price competition and non-price competition.
- Describe examples of non-price competition, including advertising, packaging, product development and quality of service.

Firms compete on price when they lower their price in hopes of increasing the demand at the expense of another firm. Firms will also engage in non-price competition when they engage in differentiation and advertising to encourage the purchase of their products.

Generally, the greater the level of differentiation, the more inelastic the demand for the good and the less a firm needs to compete on price. Firms that have trouble differentiating have more elastic demand, and will emphasize lower prices to attract customers.

10.5

Monopolistic competition and efficiency

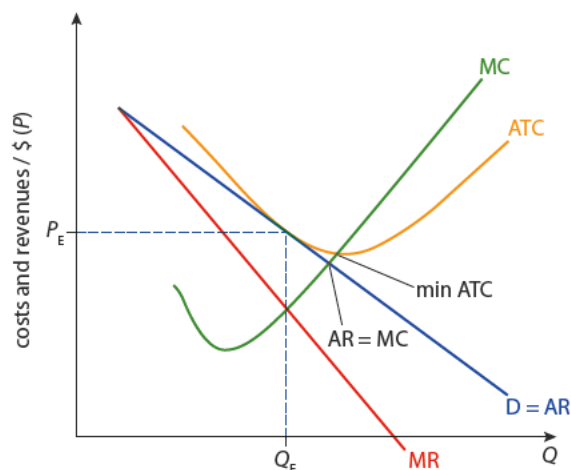
Learning outcomes

- Explain, using a diagram, why neither allocative efficiency nor productive efficiency are achieved by monopolistically competitive firms.

As with monopoly and perfect competition, we assess the efficiency of monopolistic competition based on whether the firm achieves allocative and productive efficiency. As detailed previously, allocative efficiency is achieved where P or $(AR) = MC$, and productive efficiency is achieved where $P = \text{minimum ATC}$. When viewed in terms of the long-run equilibrium, it seems clear that neither form of efficiency is achieved in monopolistic competition.

Figure 10.5 shows long-run equilibrium for the monopolistic competitor. The firm produces at a price P_E that is far higher than MC , thus allocative efficiency is not achieved. It also produces a quantity far to the left of where price is equal to the minimum ATC .

Figure 10.5
Monopolistic competition and efficiency.





Thus, productive efficiency is not met either. For the monopolistic competitor to achieve either type of efficiency it would need to produce more quantity. Because it produces the amount that maximizes profits, it will not do so.

Excess capacity

For both types of efficiency, the monopolistic competitor produces too little output. It is often said of such firms that they have excess capacity. This excess capacity is derived from the downsloping demand curve, which drops MR far below AR, and shifts the equilibrium quantity backwards. Thus, the greater the differentiation, the steeper the slope of the demand curve and the greater the excess capacity of the firm. Thus, the firm has greater inefficiency. Excess capacity is observable throughout monopolistically competitive industries.



Examples of excess capacity: nail salons may only have a few customers at a time, hotels are often partially occupied, retail clothing stores have spacious showrooms.

10.6

Monopolistic competition vs perfect competition and monopoly

Learning outcomes

- Compare and contrast, using diagrams, monopolistic competition with perfect competition, and monopolistic competition with monopoly, with reference to factors including short run, long run, market power, allocative and productive efficiency, number of producers, economies of scale, ease of entry and exit, size of firms and product differentiation.

Monopolistic competition vs perfect competition

Perfect competition is the closest market structure to the monopolistically competitive one, especially in the number of firms and the ease of entry. How do they compare overall?

- In the long run, both industries achieve only normal profits. Because it is easy to enter and exit, profits are consistently 'competed away' while attrition reduces losses over the long run.
- Perfect competition is more efficient. While the perfect competitor achieves both types of efficiency, the monopolistic competitor achieves neither.
- Choice and variety are greater among monopolistic competitors. Product differentiation provides consumers with a wider range of choices than perfectly competitive firms. This expanded choice is consistent with the free market idea of allowing consumers and producers to act based on price information and the profit incentive.

Monopolistic competition vs monopoly

- Monopolists can earn long-run profits because they have barriers to entry. The monopolistic competitor will see profits competed away by new entrants.
- Neither industry is efficient. Their downsloping demand curves restrict output and price goods higher than in perfect competition, lowering efficiency on both allocative and productive grounds.
- The monopolist faces no real competition. Monopolistic competitors do, and so have an incentive to keep costs down and to differentiate.
- Cost-savings of economies of scale are far more likely under monopoly, whereas the monopolistic competitor is unlikely to grow large enough to see these benefits. Meanwhile, the monopoly will have greater capacity to innovate through research and development investment.

10.7

Oligopoly

Learning outcomes

- Describe, using examples, the assumed characteristics of an oligopoly: the dominance of the industry by a small number of firms; the importance of interdependence; differentiated or homogeneous products; high barriers to entry.
- Explain why interdependence is responsible for the dilemma faced by oligopolistic firms – whether to compete or to collude.
- Explain how a concentration ratio may be used to identify an oligopoly.

Oligopolies exist all around us. Any time a few large firms dominate a market, there may be an oligopoly.



One step further up in the realm of market power lies oligopoly. From the Greek for 'few sellers' the oligopoly model represents a significant concentration of market power within a few firms. Oligopoly is defined as an instance where a few sellers dominate the industry. There may be more than a few in the entire market, but a small group exert significant market power.

Oligopoly and monopolistic competition are grouped together in this chapter because it is sometimes difficult to discern a clear difference between the two in the real world. As more areas of local and national economies expand to a global scale, the frequency of oligopoly has increased.

Defining oligopoly: concentration ratios

An oligopoly is a market where a few sellers dominate the market for an identical or differentiated good, and where there are significant barriers to entry.



Oligopoly may have just a few firms in the industry, or it may have several more. A common method of determining whether or not an industry operates under oligopoly conditions is called the concentration ratio. A concentration ratio attempts to quantify the density of market power held by a certain number of firms. It is expressed as CR_X , where X is the number of firms controlling a certain percentage of the market. A value for CR_{10} would tell us how much of the market is controlled by the top 10 firms. The higher the

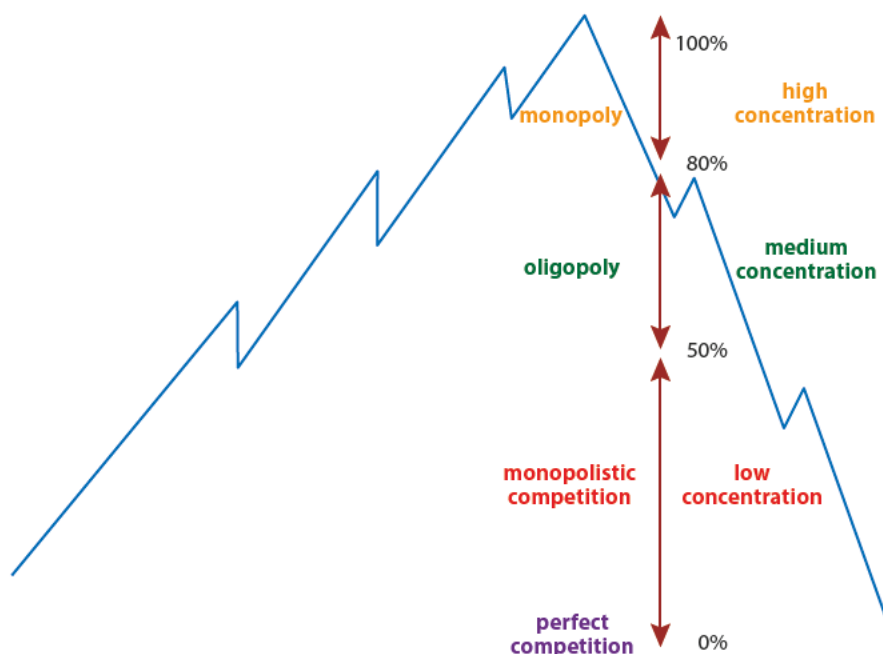


Figure 10.6

Concentration ratio, four largest firms (CR_4).

percentage, the greater the market power. Typically, the CR_4 is the guideline measure for determining the type of industry. Figure 10.6 (above) shows the CR_4 percentage criteria for classifying a firm as a particular type of industry.

In the UK, one measure of CR_5 data revealed that the top five firm concentration ratios were in the market for sugar and tobacco (99%), gas distribution, oils and fats, and confectionery. This means that 99% of the market for sugar and tobacco is served by the top five firms, a situation that approaches monopoly status. Among the industries with the lowest concentration ratios were metal forging (4%), plastic products, and furniture and construction. This suggests that these industries are rather close to being perfectly competitive.

Assumptions of the model

Oligopolies can be very different. What follows is an attempt to summarize some key points of similarity and comparison.

A few large firms

Concentration ratios can mislead one into thinking that all the firms share their concentration equally. This may be the case. However, it is also possible that one firm is significantly larger than the other three or four. What can be said is that the market is dominated by a small group of firms that are relatively large compared to the others.

Barriers to entry

Oligopolies are characterized by high barriers to entry. These barriers may be the same types as those enjoyed by monopoly firms: high initial fixed costs, access to resources, economies of scale, legal barriers such as licences and patents, and the employment of aggressive anti-competitive tactics.

Differentiated or non-differentiated (homogeneous) goods

Oligopolies may produce differentiated goods, like the monopolistic competitor. Oligopoly industries like soaps, soft drinks and sodas, breakfast cereals, and automobiles all strive



How can a market with 100 firms be oligopolistic? There are many industries in which a few large firms compete against dozens or even hundreds of small firms. Computer software is an example. The giants Microsoft, Oracle, Adobe, and Google compete for the lion's share of customer demand, but thousands or hundreds of thousands of small firms and individuals develop and sell software to consumers for all sorts of devices, from smartphones to tablets and desktop computers.

mightily to differentiate their products in hopes of drawing customers away from their competitors. Other oligopolies, typically in the provision of raw materials like timber (wood), oil, and aluminium, produce essentially the same good.

Interdependence

An especially distinct feature of oligopolies is that there being relatively few firms in the industry creates a tendency towards especially interdependent relationships between firms. In other words, a firm's actions in the market are watched by its competitors, which may react with actions of their own. Recall that in more competitive markets, the actions of one firm had no effect on the overall market. With an oligopoly, the single firm is large enough, relative to the market, to affect the market by its actions.

To access Worksheet 10.1 on oligopolistic scuba operators, please visit www.pearsonbacconline.com and follow the onscreen instructions.

To learn more about oligopoly, visit www.pearsonhotlinks.com, enter the title or ISBN of this book and select weblink 10.2.

Strategic thinking

One result of interdependence is that firms are thereby inclined to think strategically, considering the possible reactions of other firms to any particular initiative. As they do so, the firms have relatively few other firms to monitor, and this leads to a choice between following the strategies employed by most of the other firms, or to compete with them. With oligopoly, firms are regularly tempted to cut prices to win customers away from competitors. This type of price competition can reduce profits throughout the industry, especially if it leads to a protracted 'price war.' An alternative approach would be to keep prices high, either passively or in active coordination with other firms. This is only possible because the collective firms have enormous market power. The strategy can yield extra profits as a result. Thus the oligopoly must choose between opposite strategies, to compete or to collude. This is explored in the remaining sections of this chapter.

10.8

Game theory

Learning outcomes

- Explain how game theory (the simple prisoner's dilemma) can illustrate strategic interdependence and the options available to oligopolies.

Game theory is a branch of mathematics and social sciences that tries to capture behaviour in strategic situations (games).

One area of economics helps to explain the 'collude or compete' dilemma more clearly. Game theory uses applied mathematics to understand how individuals act strategically, where their success depends on the choices made by others in the so-called 'game.' This simplest form of game theory can illustrate the quandary posed to the oligopolist. Called the prisoner's dilemma, this form of a game has two players, in effect a duopoly.

In this game, Bonnie and Clyde (a famous pair of criminals) are arrested for robbery. They have agreed beforehand that if caught, both will keep quiet in the hopes of reducing their prison sentence. Now both are being interrogated separately, and they face conflicting incentives. Figure 10.7 shows the rewards (in this case, punishments) for the choices each can make paired with the possible choices of their partner.

As they decide what to do, both Bonnie and Clyde face competing incentives. If they hold to their original agreement, to keep quiet and deny all the charges, each will get a small sentence of three years related to their possession of unlawful guns and other weapons. However, each will be tempted to confess, knowing that if they do so while their partner

To access Worksheet 10.2 on game theory and oligopoly, please visit www.pearsonbacconline.com and follow the onscreen instructions.

		Clyde	
		deny	confess
Bonnie	deny	3 years 3 years	1 year 10 years
	confess	10 years 1 year	5 years 5 years

Figure 10.7

Prisoner's dilemma payoff matrix.

continues to loyally deny the charges, the confessor will have their sentence reduced to one year as a reward for their cooperation. The loyal partner, however, will be locked up for 10 years. If both Bonnie and Clyde act on this incentive and confess, both will be jailed for five years. In this case, since both confessed, the evidence will be quite solid but each will get a reduced sentence for cooperation. There is a powerful incentive at work here. At best, confessing will reduce the sentence to the absolute minimum; at worst, confessing will help to avoid the worst-case scenario of a 10-year sentence. It is likely, but not certain, that both Bonnie and Clyde will confess, as it offers the best payoff given the possible actions by their partner.

The above dilemma can be applied to market duopoly, where firms are deciding whether or not to advertise, a common dilemma for markets with products that are differentiated. In Figure 10.8, two cola companies, Company C and Company P, are assessing their incentives. If the firms split the market 50% each, and neither advertises, then their profits will be \$5 billion each.

		Company C	
		don't advertise	advertise
Company P	don't advertise	\$5 billion \$5 billion	\$7 billion \$1 billion
	advertise	\$1 billion \$7 billion	\$4 billion \$4 billion

Figure 10.8

Duopoly payoff matrix, advertising.
Gregory Mankiw, *Principles of Economics*

However, if Company C advertises and Company P does not, it will win over vast numbers of new customers and earn \$7 billion, mostly at the expense of Company P, who will earn only \$1 billion. (This might be enough profit to allow Company C to buy Company P and become a monopoly.) Of course the reverse is true, as Company P will dramatically out-earn Company C if it advertises and Company C does not. Thus both firms have a strong incentive to compete (advertise) rather than to collude. The dilemma still exists, however, because collusion could bring more overall profit, \$10 billion total, than any combination that includes advertising.

Table 10.1 (overleaf) shows the top 10 advertisers (in terms of spending) in the US in 2006.

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TABLE 10.1 TOP 10 ADVERTISING SPENDERS, US, 2006

Company (type of product most advertised)	Advertising spending in billions USD
Proctor and Gamble (soap, toothpaste, health and beauty)	4.09
AT&T (cellular network)	3.34
General motors	3.3
Time-Warner (news, television, movies, media)	3.09
Verizon (cellular network)	2.84
Ford (automobiles)	2.58
GlaxoSmithKline (prescription drugs)	2.44
Walt Disney (movies, theme parks)	2.34
Johnson and Johnson (non-prescription drugs, soap, beauty)	2.33
Unilever (soap, tea, diet drinks)	2.10

HL EXERCISES

Examine Table 10.1 and answer the following questions.

- 3** Which of the firms above do you think fit the criteria for an oligopoly?
- 4** Select three companies and explain why differentiation is so important to them.
- 5** What does this suggest about the degree of interdependence in these industries? To what degree do they compete, or collude?

10.9

Collusive oligopoly

Learning outcomes

- Explain the term 'collusion', give examples, and state that it is usually (in most countries) illegal.
- Explain the term 'cartel'.
- Explain that the primary goal of a cartel is to limit competition between member firms and to maximize joint profits as if the firms were collectively a monopoly.
- Explain the incentive of cartel members to cheat.
- Analyse the conditions that make cartel structures difficult to maintain.

This section explores in further detail the distinction between firms that actively cooperate to fix prices and restrict output (i.e. collusive oligopolies) with firms that do not (i.e. non-collusive oligopolies). Collusion need not be explicit, it can be tacit and happen without




specific coordination. But it can also be formal and explicit, with agreed strategies that seek to maximize profits for the entire industry.

Formal collusion: cartel formation

When oligopolists agree to take specific market action in a coordinated and sustained effort to enhance profits, a cartel is at work. Cartels differ from occasional acts of market coordination by being continuous business arrangements. Firms can coordinate a variety of market behaviours together. They can restrict output to drive up prices. They can fix prices within a specified range. They can decide to restrict innovation and avoid extra costs of research and development. They can agree not to advertise or in any way compete with each other.

When the firms agree to fix the market price and output level, they are essentially acting as one industry. Figure 10.9 shows the collusive oligopoly in action. It functions just as a monopoly would, with firms producing at the profit maximization output where $MR = MC$, setting price at the demand curve at P_E , and enjoying whatever profits are produced, shown by the shaded area of the diagram.

 Collusion is an agreement, whether formal or informal, between competitive parties to limit competition and raise prices.

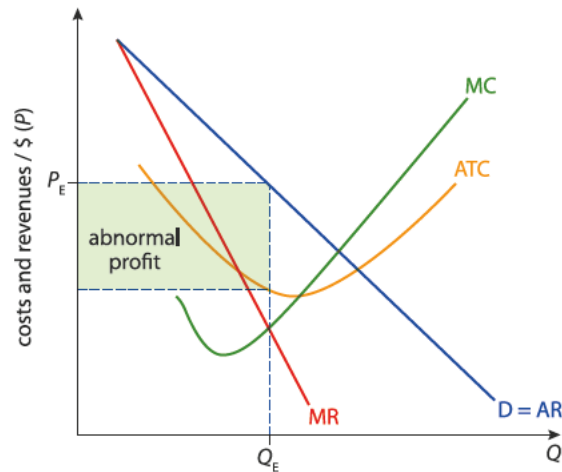


Figure 10.9
Collusive oligopoly.

Relatively few industries have been able to obviously and provably achieve this level of market power. Food conglomerates in the 1990s were accused of this kind of price fixing in the market for a particular chemical. Most price fixing is done among firms that could not constitute a full-scale monopoly – for example, British Airways was convicted of price fixing certain charges with Virgin Atlantic in 2007. In the same year, a more conclusive act of near-monopoly price fixing occurred when Heineken, Grolsch, and Bavaria (together serving 95% of the Dutch beer market) were convicted in the EU courts of price fixing.

The most famous and overt cartel is the Organization of Petroleum Exporting Countries (OPEC), a group of 12 oil-producing countries founded in 1965. OPEC regularly meets to set production quotas in the hope of establishing the ‘right price’ for oil in world markets. OPEC countries possess two-thirds of latent oil reserves, and currently produce one-third of all oil. Thus, they have considerable

OPEC headquarters in Vienna.



A cartel is a group of competitors that successfully limit competition and keep prices above a competitive norm.



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influence on world oil markets. In fact, OPEC is a useful example to keep in mind when observing the dual tendencies to collude or compete. After agreeing to production quotas with a target oil price in mind, countries are tempted to produce and sell secretly. This, of course, would lower world prices and reduce profits for all.

Difficulties in cartel formation

The paucity of outright collusive cartels provides a clue to the difficulties oligopolists face when attempting to work together in a sophisticated fashion. Price and production fixing is specifically illegal in the EU, the US and the UK, which drives the practice underground, if it is practised at all, in those areas. Also, there is the strong incentive to cheat other firms in the industry. Firms, it should also be noted, are not all alike in their demand and costs situations. Some firms could compete on cost, where other firms need higher prices to survive. Furthermore, if firms successfully coordinate, some industries can draw competition if they are earning dramatic economic profits.

10.10

Tacit or informal collusion

Learning outcomes

- Describe the term 'tacit collusion', including reference to price leadership by a dominant firm.

Informal or tacit collusion occurs when a single dominant firm establishes price leadership. The leading firm sets general price levels, and smaller firms follow with comparable prices. While no specific agreement exists, the informal understanding can endure because the smaller firms resist the urge to cut prices as the dominant firm would be able to survive any price wars. This does not prevent all forms of competition. Firms may still compete on service or brand power, or on another basis of non-price competition. Industries that have seen instances of price leadership include rental cars and breakfast cereals.

Informal collusion, while perhaps more common than the formal kind, is still somewhat difficult to achieve. Cost and demand differences among firms cause each firm to have their own incentives. Firms are still tempted to cheat. And this kind of price fixing may also be illegal.

Avis is one of the major players in the world of international car hire.



Learning outcomes

- Explain that the behaviour of firms in a non-collusive oligopoly is strategic in order to take account of possible actions by rivals.
- Explain, using a diagram, the existence of price rigidities, with reference to the kinked demand curve.
- Explain why non-price competition is common in oligopolistic markets, with reference to the risk of price wars.
- Describe, using examples, types of non-price competition.

Price competition

Non-collusive oligopoly occurs when firms do not cooperate and, therefore, exist in a strategic environment where one must consider the actions and reactions of other firms at all times. When firms do not actively collude, the dual tendencies to compete and collude are in force. Firms face the choice described in the prisoner's dilemma. However, it is also possible to show this situation in a diagram (Figure 10.10).

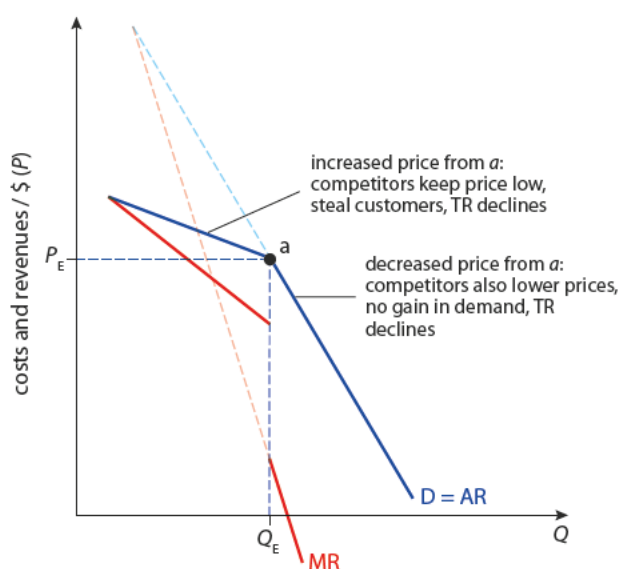


Figure 10.10

The kinked demand curve.

Here the oligopolist faces a dilemma regarding price and output. We should assume that the firm is itself a price leader or that price leadership has already been established at P_E (point a on the demand curve). The firm faces two new possible options with regard to price. It could increase the price from point a (P_E). Note that the demand curve is then flatter from this point, suggesting that the firm will face more elastic demand. Why? Because the other firms in a non-collusive oligopoly would not necessarily follow this lead and increase prices also. Instead, they would stay at the lower price position, and the price-increasing firm would see its market share, as well as total revenue (TR), decrease. Therefore, increasing the price seems like a bad idea to the non-collusive oligopolist.

If the firm tried to decrease the price from point a, they would be lowering price in hopes of stealing market share from other firms. This would be borne out as more TR and probably more profit. However, the demand curve below point a is quite steep. The steeper slope is not good news for the firm. In response to the decreased price (which appears to

i Think about your favourite fast-food restaurant. When was the last time you remember the prices changing? Why do fast-food chains have little incentive to raise their prices? Why do they have little incentive to lower their prices? How does the kinked demand curve model of non-collusive oligopolies help explain the fact that fast-food prices rarely change?

be an aggressive action to the other oligopolists), competitors also lower their prices. The result of this is a price war, which lowers TR for each firm, as firms find they are lowering prices without earning any new customers.

So, if an oligopolist tries to show price leadership and increase prices, no competitors will follow. If the firm decides to cheat and lower prices, other firms will follow with price cuts and reduce everyone's revenue. Thus, the firms in the non-collusive oligopoly still have a tremendous incentive to keep prices stable, to do nothing that will upset this delicate balance. Firms in this situation are left primarily to compete on a basis other than price.

Figure 10.10 has no specified cost curves. Presumably, the firm will only operate if it is earning at least normal profit in the long run. But if firms have little control over their pricing, this is where firms may be able to increase profits – by lowering their costs. Thus, it is possible that such oligopolies will focus on non-price competition as well as cost-efficiency as their primary means of competing.

New examples of product differentiation are popping out at us all the time. You may have a new flat-screen TV. But if it's up to the TV manufacturers, you'll be dropping it off at the dump soon and buying a new 3D TV. The battle for consumers in the electronics market may take place in the third dimension in the near future, as more and more devices come equipped with 3D screens.

To learn more about non-price competition, visit www.pearsonhotlinks.com, enter the title or ISBN of this book and select weblink 10.05.

Non-price competition

Oligopoly firms often seek ways other than price to maximize profits (non-price competition as for the monopolistic competitor, page 222). Service, design and appearance, quality, and brand power are among the most typical aspects of non-price competition. Evidence of non-price competition among oligopolists occurred in the early decades of commercial flight, when most airlines were heavily regulated on the prices they could charge customers. As a result, airlines competed in every other way possible, including offering lavish meals, with beverages. Only after deregulation did 'budget' airlines offer an alternative, with no meals and reduced services, to attract price-conscious customers.

Furthermore, as with monopolistic competition, actual differences in product are only important insofar as they are perceived to be different by consumers. This is where advertising plays a pivotal role in oligopoly as well as monopolistic competition. Firms spend lavishly with the purpose of convincing the public of sometimes rather small differences in products. Recall that they do so in the hope of yielding some extra economic profit (at least temporarily, until the competitor copies or counters the innovation), or of preventing a loss of market share (the fate of firms that choose not to compete).

That said, the impulse to differentiate can be defended on the basis of consumer choice. In short, society may not need several dozen breakfast cereals, nor a plethora of shaving creams, but consumers do apparently enjoy having the variety.

Advantages and disadvantages of oligopoly

While oligopoly tends to have the most complicated and elusive type of firm, it is possible to establish some areas of criticism and possible benefit.

Disadvantages

Disadvantages to oligopoly are the apparent lack of allocative and productive efficiency. Like monopoly and monopolistic competition, the downward-sloping demand curve of the oligopolist (kinked though it may be) has the same effect. It raises price above marginal cost ($P > MC$), and so allocative efficiency is not achieved. It also brings the profit-maximizing level of output to the left of where ATC is at its minimum. Thus, productive efficiency is also not achieved. The other major problems with oligopoly involve the tremendous incentives to coordinate and collude. These incentives seek merely to take

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advantage of the firm's market size, and to discourage the competition that could yield innovation and efficiency.

Advantages

Oligopoly, like the monopolist, may earn continuous economic profits as a result of the barriers to entry. Thus, firms do have the economic resources to conduct research and development. It is, therefore, possible that firms that do invest in innovation may yield some economies of scale that could ultimately yield lower prices for consumers.

PRACTICE QUESTIONS

- 1** Analyse to what degree monopolistically competitive firms are considered allocatively and productively efficient. (10 marks) [AO2], [AO4]
- 2** Using a game theory payoff matrix, explain how firms in an oligopoly face strategic choices. (10 marks) [AO2], [AO4]
- 3** Why do some oligopolistic firms engage in non-price rather than price competition? (10 marks) [AO2], [AO4]
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- 4**
 - a** Explain the difference between short-run equilibrium and long-run equilibrium in monopolistic competition. [10 marks] [AO2], [AO4]
 - b** 'Perfect competition is a more desirable market form than monopolistic competition.' Discuss. [15 marks] AO3
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- 5**
 - a** Explain the differences between monopolistic competition and oligopoly as market structures. (10 marks) [AO2], [AO4]
 - b** Discuss the differences between a collusive and a non-collusive oligopoly. (15 marks) [AO3]
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