Microeconomics

1. Introduction

1.1. Chapter overview

Micro means small and microeconomics is the study of economics on a small scale. This chapter looks at **supply** and **demand**, the factors that make producers make certain quantities of goods to sell at certain prices, and what makes consumers buy certain quantities of goods at certain prices.

Analysis of demand is an important part of microeconomics. In this chapter you will see calculations showing how the quantity demanded of a product changes with different product prices and levels of consumer income. These are calculations of **sensitivity** of demand.

You will then look in detail at the supply side of the story and consider the conditions under which firms produce. An important consideration is costs. To an economist costs are different to the normal accounting measure. Economists look at **economic costs** and **economic profit**, which means looking at all costs, including the costs of lost **opportunities**.

You will apply this theory about costs to a firm. This chapter shows graphically that firms will keep increasing their output until the additional sales revenue is outweighed by the additional costs of production.

You will also see that the competitive environment that a firm operates in influences the level of profits that it can make. Some firms face **perfect competition** where they are in fierce competition with others. Others are in **monopoly** positions where there is no-one else competing with them.

1.2. Learning outcomes

On completion of this module, you will:

Microeconomics: the basics

- 8.2.1 Distinguish between explicit (accounting) costs and opportunity (economic) costs
- 8.2.2 Explain the concept of normal, supernormal and sub-normal levels of profit

Supply and demand

- 8.1.1 Explain the laws of supply and demand
- 8.1.2 Distinguish between movements along demand and supply schedules and shifts thereof
- 8.1.3 Identify the factors that cause a demand or supply schedule to shift

Elasticities of demand

- 8.1.4 Describe, calculate and interpret own price elasticity of demand and its impact on total revenues
- 8.1.5 Identify the factors that determine own price elasticity of demand
- 8.1.6 Explain, calculate and interpret the concept of cross elasticity of demand (as applied to substitute and complementary goods)

- 8.1.7 Explain, calculate and interpret elasticity of supply and its dependence on the flexibility of factors of production

The production process

- 8.3.1 Define short-run and long-run in the context of cost behaviour
- 8.2.3 Define fixed costs, variable costs, marginal costs, total costs and average costs
- 8.2.4 Explain the shapes of the short-run marginal cost, average variable cost, average fixed cost, and average total cost curves
- 8.2.5 Explain the law of diminishing marginal returns and its impact on the shape of short-run cost curves
- 8.2.6 Explain the relationship between total revenue, average revenue and marginal revenues for a normal demand schedule
- 8.3.2 Explain the notions of economies of scale, a minimum efficient scale and diseconomies of scale and their impact on the shape of the long-run average cost curve
- 8.3.3 Explain the relationship between long-run marginal costs and long-run average costs and explain how this determines the level of output for productive efficiency to arise

Market structures

- 8.2.7 Explain the relationship between marginal cost and marginal revenue, and how this determines the profit maximising level of output for a firm
- 8.4.1 Identify the conditions that characterise a perfectly competitive ('price-taker') market
- 8.4.2 Explain the conditions of long-run equilibrium for a price-taker
- 8.4.3 Explain the market mechanics through which only normal levels of profit can be earned by price takers in the long-run
- 8.4.4 Explain the relationship between short-run supply and marginal cost for a price-taker
- 8.4.5 Describe the shape of the long-run supply curve for a perfectly competitive industry
- 8.4.6 Explain the decision by a price-taker facing economic losses to either continue to operate or shut down
- 8.4.7 Identify the conditions that characterise a pure monopoly
- 8.4.8 Explain the conditions of long-run equilibrium for a monopoly
- 8.4.9 Distinguish between the equilibrium price, output levels, and productive efficiency of a monopoly compared to a perfectly competitive firm
- 8.4.10 Explain price discrimination and the conditions under which it will prevail
- 8.4.11 Describe the characteristics of monopolistic competition and oligopoly

Assessing industries and companies

- 8.5.1 Describe how business cycles may affect relative industry performance
- 8.5.2 Identify Porter's five competitive forces that drive industry competition

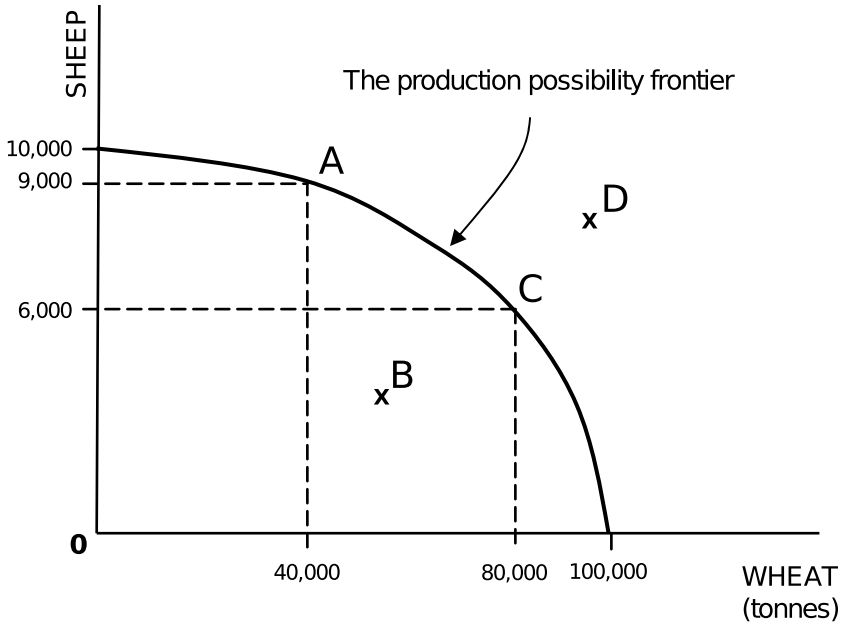
- 8.5.3 Describe the product life cycle and the characteristics of each phase (introduction, growth, maturity and decline)
- 8.5.4 Describe the concept of strengths, weaknesses, opportunities and threats (SWOT) analysis and its role in corporate evaluation
- 8.5.5 Describe the 4Ps marketing mix (product, price, promotion and place) in the context of analysing competitive advantage and threats

2. Microeconomics: the basics

2.1. Production possibility frontier (PPF)

The production possibility frontier is a graphical way of showing the different combinations of goods that may be produced in an economy if all available resources are efficiently utilised.

For example, consider a one-farm island with several hundred acres of land. If the farmer had a choice of either growing wheat or raising sheep, the production possibility frontier may look something like the one shown below:



In the example shown above the farmer may:

- Produce 10,000 head of sheep and no wheat
- Produce 100,000 tonnes of wheat and no sheep
- Produce some wheat and some sheep

Point A and C are on the PPF, i.e. all resources are being efficiently utilised. Point B is not on the PPF; this suggests that resources are being under-utilised.

To operate at point D would mean moving the PPF outwards. This may only be done if the economy expands and attains more resources (i.e. more labour or more land).

2.2. Opportunity cost

Introduction

The opportunity cost represents the cost of foregoing the next best alternative, i.e. the cost of an alternative investment compared with a chosen course of action.

For example, using the above example, let's say a farmer is currently producing at point A on the production possibility frontier (PPF) shown above. This would mean he is rearing 9,000 sheep on some of his land and growing 40,000 tonnes of wheat on the rest. If the farmer then decides to increase wheat production from 40,000 to 80,000, he will need to reduce the number of sheep reared to 6,000. He is still producing on the PPF, but he has made a decision to forgo the profits generated from producing at point A in favour of producing at point C.

The opportunity cost of that decision is the money that the farmer could have made by sticking with his original decision.

Opportunity cost considers not only the monetary advantage of one decision or another but the comparative circumstances, risk, time and effort necessary for one against the other.

Opportunity costs and profit

Profit is calculated by subtracting total costs from total revenue.

Accounting profit is the excess revenue income over and above explicit costs. Explicit costs are the costs we would normally associate with production: the wages we need to pay, the rent or lease on the property, the cost of raw materials, etc.

Given the above example, we would expect the farmer producing at position C on the PPF to be generating a greater revenue income than he was paying out in explicit costs: that is, he is making an accounting profit. Nevertheless, was his decision to move from point A to point C a good one? Did this choice reflect a more efficient use of the farmer's resources? This is where economic profit comes in.

When economists refer to costs, they are not just referring to explicit cost, but also opportunity costs. In order to generate economic profit a firm's excess revenue income must be above its total costs (including opportunity costs).

In order to decide whether the farmer made the correct decision, we would first look to see whether the farmer made an accounting profit – this is always a good start. We would then look to see if the accounting profit of producing at point C was greater than the accounting profit of producing at point A. The accounting profit of producing at point A has now become the farmer's opportunity cost.

Logically, if the accounting profit of producing at point C were greater than that of producing at point A then the farmer would have made an economic profit and, consequently, the correct choice.

Sub-normal, normal and super normal profit

If a producer is making an accounting profit that does not cover its opportunity costs, the firm is making an **economic loss** or a **sub-normal profit**. As a result, the producer should consider switching production to the other alternative.

If a producer is making an accounting profit that just covers its opportunity costs, the firm is making **normal profits**. Economic profits in this instance would be zero. This would leave the company indifferent to the two options available, and there would be no incentive to switch.

If a producer's accounting profits are in excess of all opportunity costs, the firm is making an economic or supernormal profit. This would show that the producer has made the correct choice in its production decisions.

Normal profit is the level of profit just sufficient to keep the factors of production attracted to an industry while subnormal profit is any profit less than normal profit. This occurs when average total cost is greater than price.

It is worth pointing out that any organisation faces more than one choice. However, when it comes to opportunity costs, it is always the cost of the next best alternative. That is we only consider that there are two alternatives for the firm.

The information below shows the accounting and economic profit generated from the purchase of a machine under three different revenue scenarios.

A firm's costs are as follows:

Explicit costs	£10m
Opportunity costs	£2m
Total costs	£12m

1.	Revenue	£11m	Accounting profit	£1m
			Economic profit / (loss)	(£1m)
2.	Revenue	£12m	Accounting profit	£2m (Normal profit)
			Economic profit / (loss)	Zero
3.	Revenue	£13m	Accounting profit	£3m
			Economic profit / (loss)	£1m (Supernormal profit)

3. Supply and demand

3.1. Introduction

Microeconomics is concerned with how firms utilise their resources.

It seeks to answer the questions: ‘how much should a firm produce?’ and ‘how much should it charge?’

At the heart of these problems are the twin concepts of supply and demand.

Markets determine how resources are allocated and are dependent on where supply and demand meet.

Supply is the amount of a good/product that sellers are prepared to provide at a certain price over a given period of time.

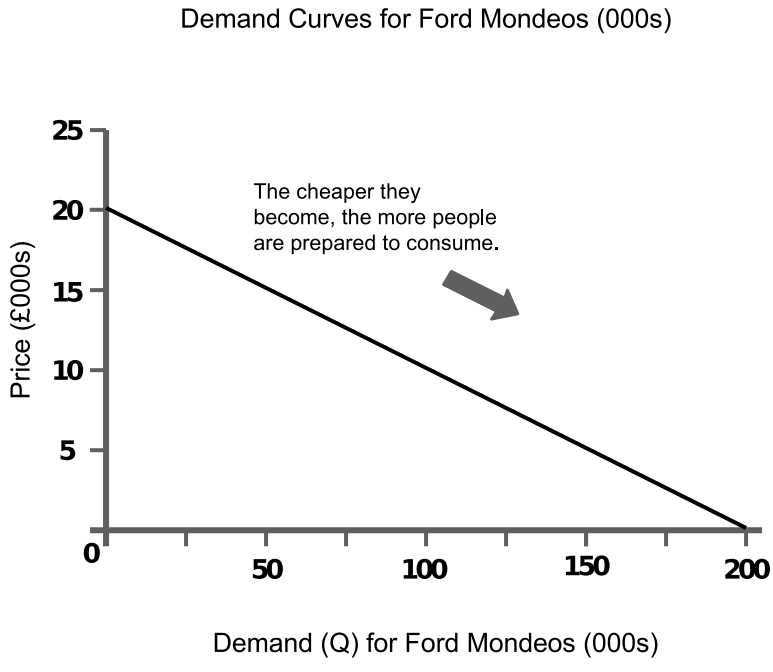
Demand is the amount of a good/product that buyers are prepared to purchase at a given price over a given period of time.

3.2. Demand Curve/Schedule

Introduction

A demand curve/schedule shows the quantity (Q) of a good demanded at different price levels (P).

For example, the demand curve for Ford Mondeos might look like:



As illustrated, the demand curve shown above is downward sloping, i.e. the cheaper Mondeos become, the more demand there will be. Increasing or decreasing prices would cause a move along the demand schedule.

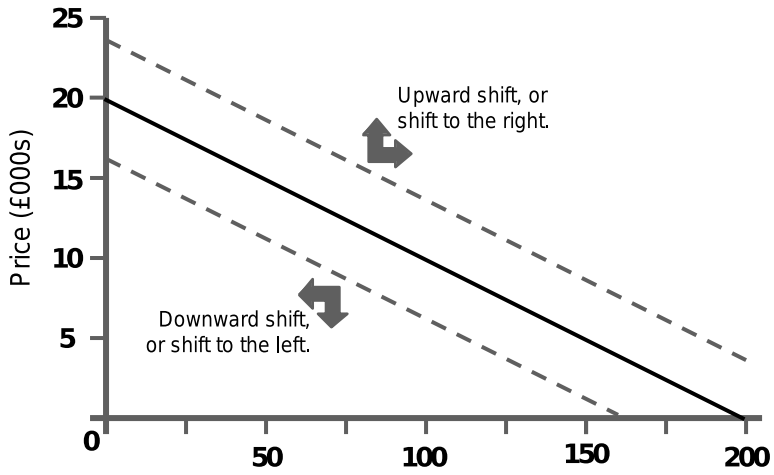
Upward and downward shifts

When the quantity demanded for a good changes because of a factor other than a change in the price of the actual good this is deemed to be a **shift** in the demand schedule.

A shift to the right (an upwards shift) represents an overall increase in demand.

A shift to the left (a downwards shift) represents an overall decrease in demand.

Demand Curves for Ford Mondeos (000s)



Factors causing a shift to the right of the demand schedule

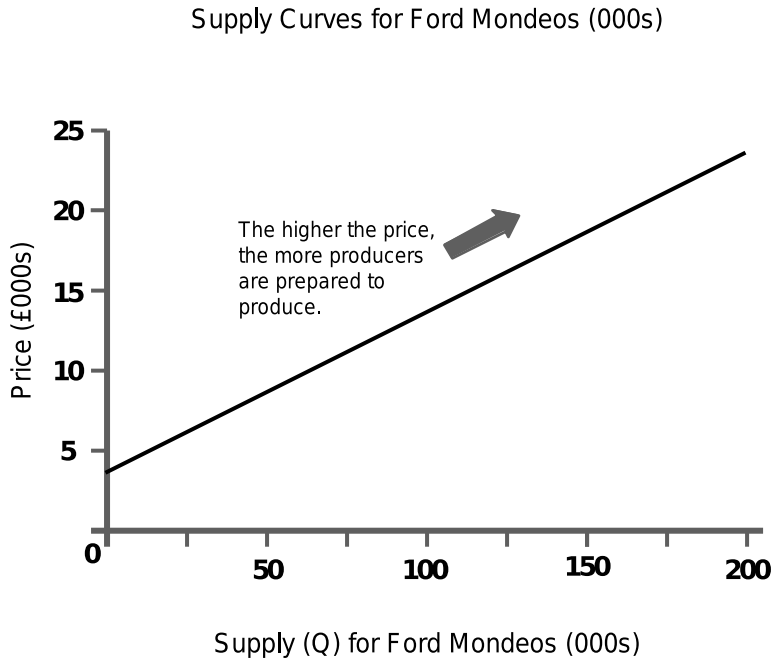
- Goods becoming more fashionable
- A rise in consumers' disposable income
- An increase in (successful) advertising expenditure
- Substitute goods - two goods are substitutes if the quantity demanded of one is positively related to the price of the other, e.g. if the price of Vauxhall Vectras goes up, then more people will buy Ford Mondeos (and vice-versa)
- Complementary goods - two goods are complements if the quantity demanded of one is negatively related to the price of the other, e.g. if the price of petrol fell, motoring would become cheaper and more Mondeos would be sold

Factors causing a shift to the left of the demand schedule

Increases in indirect taxes (VAT), cheaper substitutes and more expensive complementary goods will all have the effect of pushing the demand curve down (to the left).

3.3. Supply Curve/Schedule

The supply curve shows the quantity of goods supplied at different prices over a given timeframe:



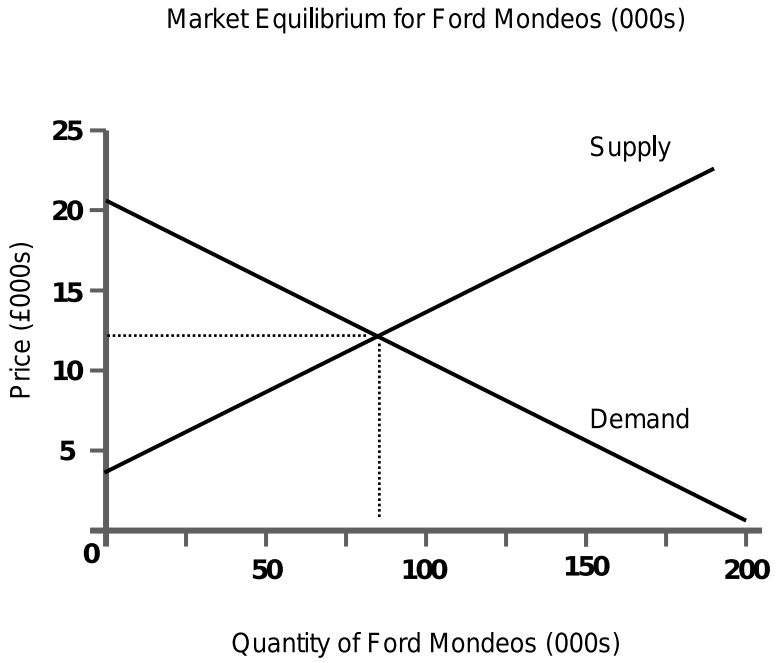
An increase in price would result in sellers supplying more of the product or service (a movement along the supply curve).

The supply curve is also liable to shift:

- If Ford improved their technology they would be able to supply more Mondeos at the same price; the supply curve would shift to the right (downward)
- Other car manufacturers might encroach on Ford's market and force an increase in production, again, causing a shift to the right
- A decrease in costs to Ford would push the supply curve to the right

3.4. Supply and demand in equilibrium

If the demand and supply curves are placed on the same axis the two will cross where demand equals supply:



The market is therefore in equilibrium when 80,000 cars are being produced at £13,000 each.

4. Elasticities of demand

4.1. Introduction

The elasticity of demand measures how sensitive demand is to changes in various factors.

There are three elasticities to consider: price, income and cross elasticity of demand.

4.2. Own price elasticity of demand (PED)

One of the most important factors affecting the demand for a good is price. The price elasticity of demand measures the sensitivity of demand to changes in its price.

It is calculated by:

$$\text{Price elasticity of demand} = \frac{\text{Percent change in quantity}}{\text{Percent change in price}}$$

The slope of the demand curve (and consequently the PED) is normally negative (downward sloping).

For example, if a good's price rises by 10% (say, from £15,000 to £16,500) and quantities demanded subsequently fall by 25% (say, from 60,000 units to 45,000 units), the price elasticity of demand is calculated as:

$$\text{Price elasticity of demand} = \frac{-25\%}{+10\%}$$
$$= -2.5\%$$

If price elasticity of demand is greater than -1 (e.g. -1.5), as above, the good has a **high** price elasticity of demand.

If price elasticity is equal to -1, then the good is described as **unit elastic**.

If price elasticity of demand is smaller than -1 (e.g. -0.5), the good is described as **inelastic**, i.e. the quantity demanded does not change with price.

If a good is **perfectly elastic** its demand curve is horizontal and its elasticity is negative infinity.

If a good is **perfectly inelastic** its demand curve is vertical and its elasticity is zero.

4.3. Income elasticity of demand

Income elasticity measures the sensitivity of demand to consumers' disposable income.

The principle of calculating income elasticity of demand is the same as that for price elasticity of demand.

$$\text{Income elasticity of demand} = \frac{\text{Percent change in quantity}}{\text{Percent change in income}}$$

There are some goods where demand falls as income rises. These are called **inferior goods**. These tend to be items such as bus travel, where an increase in income leads to travelling by car or taxi instead.

A **Giffen** good is an inferior good where demand increases as the price increases. Giffen goods are usually associated with stable foods such as bread, rice and potatoes. These foods are generally considered a staple food for the less well-off. If prices increase, less well-off individuals are even less able to afford more expensive food items and will make up for it by buying more bread, rice and potatoes instead.

4.4. Cross elasticity of demand

Cross elasticity of demand measures the change in quantity demanded against the change in price of either a substitute or a complementary good.

$$\text{Cross elasticity of demand} = \frac{\text{Percent change in quantity}}{\text{Percent change in } \textbf{price} \text{ of substitute / complementary good}}$$

Substitute goods have a **positive** cross elasticity of demand.

Example: if the price of cars goes up then demand for tube travel will increase.

Complimentary goods have a **negative** cross elasticity of demand.

Example: if the price of petrol increases, demand for cars decreases.

4.5. Elasticity of supply

Just like demand, the elasticity of the supply schedule can be measures using a similar method.

$$\text{Price elasticity of supply} = \frac{\text{Percent change in quantity supplied}}{\text{Percent change in price}}$$

Like the PED, a PES of greater than one would be seen as elastic; and less than one, inelastic. A horizontal curve would show perfect elasticity. A vertical line would show perfect inelasticity.

In the long run, PES will be more elastic than in the short run. This will be true for all theories of the firm (perfect competition through to monopoly). These ideas will be discussed later in the chapter.

Unlike PED, the result will be positive; as the price increases the quantity the manufacturer would be willing to supply would also increase.

5. The production process

5.1. Introduction

A manufacturer's supply curve, how much they are willing and able to produce, will be determined by the costs involved in production. Costs are an integral part of production.

Production refers to the physical relationship between input and output.

Factors of production

The input side of the production process is typically considered to consist of four factors of production (also known as factor inputs):

Land

This includes the land or property on which production occurs. However, this will also include any naturally occurring resource, for example plant and animal life, weather or naturally occurring energy.

Labour

This is the work that is put into turning the raw materials into finished goods for the company.

Capital

Capital refers to anything that is man-made and used by the company in its production process. This can relate to infrastructure (roads, services, factories), as well as company assets such as plant and machinery.

Entrepreneurship

This looks at the ideas within a company. These usually come from the directors of a company, creating ideas and seeking opportunities through which the company can raise money.

Production function

The relationship between the different combinations of factor inputs and the resulting output is known as the **production function.**

The production function is considered in both the **short run** and **long run**.

5.2. Short run (SR)

Introduction

The short run is the period of time for which at least one of the factors of production is fixed.

Marginal product of labour

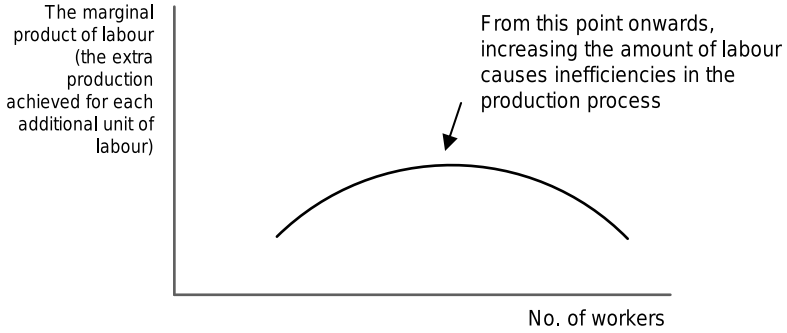
Suppose that a company's capital is fixed in the short run at three machines. At low levels of output and labour input, the first worker in the factory has many jobs to perform and has all three machines to work with. A second worker helps and a third even more so. With each of these additional units of labour, the efficiency of production is likely to have improved, as the workers will have specialised on their machine.

The benefit of adding a fourth worker is limited as they will only work when one of the others is taking a rest. Nevertheless, if the breaks of the original three machinists are staggered, this fourth member could be relieving the other workers throughout the day ensuring that no machine is ever idle. There is, however, very little useful machine work for a fifth worker to do, and so on.

In other words, the marginal product of labour, for every unit above three, is decreasing. The marginal product of labour is the increase in output obtained by adding one additional unit of labour, assuming that the input from all other factors of production is held constant.

Law of diminishing returns

This fall in the marginal product of labour is called the law of diminishing returns. The law of diminishing returns states that beyond some level of the variable input - in this case, labour - further increases in the variable input lead to a steadily decreasing marginal product.



Short run costs

There are three types of costs facing a manufacturer in the short run:

- Total costs
- Average costs
- Marginal costs

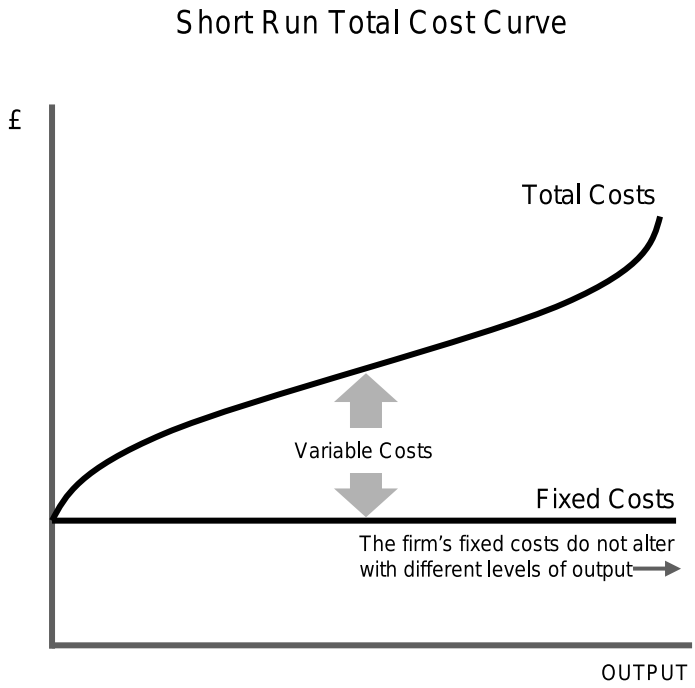
Total costs (TC)

Total costs at a given level of output include all explicit costs and opportunity costs of the firm.

Total costs are made up of:

- **Total fixed costs** (overheads), i.e. costs that do not vary with the level of output, such as rates and rent
- **Total variable costs**, i.e. costs that do vary with the level of output, such as raw materials and labour

Initially the firm's total costs (TC) rise steeply until they reach a level where the firm operates more efficiently; for example, the ability to buy raw materials more cheaply in bulk, or, as we saw above, the ability for workers to specialise efficiently on their own part of production. Once this is achieved, total costs rise less steeply until a limiting factor of production starts to push costs up again, (i.e. raw materials begin to get scarce, or not having enough machines).



Average cost (AC)

There are three average costs to consider: average fixed cost (AFC), average variable cost (AVC) and average total cost (ATC).

Average fixed cost is the total fixed cost at a certain level of output divided by the number of units being produced. (AFC = TFC / Q, where Q is the level of output).

Average variable cost (AVC) is the total variable cost at a level of output divided by the amount of output (AVC = TVC / Q).

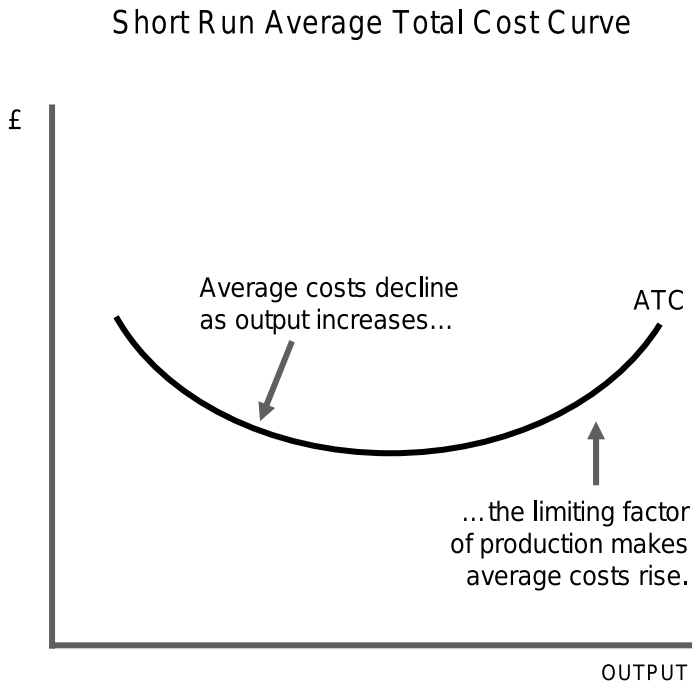
Average total costs

The average total cost is calculated as total cost divided by the number of items produced.

- Average total cost = (total fixed costs+ total variable costs) / quantity of units produced

Initially average total cost will decrease as the firm increases its output. This is because the firm is becoming more efficient.

As before, the limiting factor of production will ultimately push average total costs up once a certain level of output is exceeded.



Marginal cost (MC)

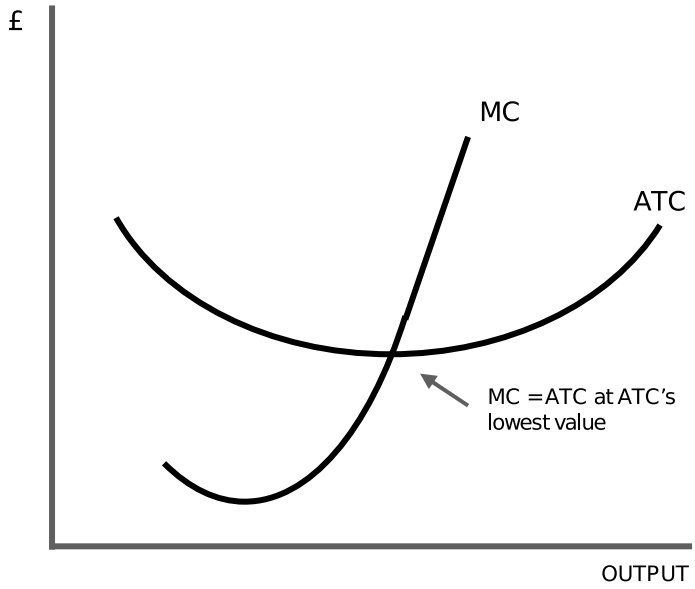
Marginal cost is the cost of producing an additional unit of production.

There is a close relationship between marginal costs and average total costs.

As long as the marginal cost is **below** average cost, then average cost will reduce as production increases. For example, consider a firm that is producing at a given level of output and its average total costs are £10 per unit. An additional unit is manufactured (the marginal unit). If this marginal unit costs £8 to produce, the result will be lower average costs. If it costs £12, the result would be higher average costs.

When average cost is neither rising nor falling, average costs must equal marginal costs. Marginal costs equal average costs at average costs' lowest point.

Short Run Average Total Cost Curve and Marginal Cost Curve



5.3. Long run (LR)

Introduction

The long run is the period of time where no factor of production is fixed, i.e. as soon as a factor of production becomes inhibiting, the firm takes steps to overcome it.

Long run costs

If the size of the factory is the limiting problem, a new one is built. This means the firm can produce more output more efficiently and costs subsequently fall.

This is shown on the diagram where the firm, on experiencing rising short run average total costs (SRATC), moves to a more efficient level of production by, say, increasing the size of the factory. Consequently a lower SRATC curve is achieved through economies of scale.

Economies of scale

The result of a series of short run average costs curves is the long run average cost curve (LRACC). This LRACC shows initially that as output increases the long run average costs decrease. This economy of scale is produced by increased efficiency (bringing down the cost of production), increased purchasing power (bringing down the cost of raw materials), increased reputation (reducing the need for advertising), etc. However, even in the long run this cannot continue forever. At some point the company could increase output, but the average cost no longer falls.

Minimum efficient scale (MES)

The minimum efficient scale (MES) corresponds to the lowest point on the long run average total cost curve and is also known as the output of long run productive efficiency. It is the level of output for a

business in the long run where the internal economies of scale have been fully exploited. The MES is rarely a single output. This period where output is increased and long run average costs do not change is known as achieving constant returns to scale.

The MES will vary from industry to industry depending on the nature of the cost structure in a particular sector of the economy.

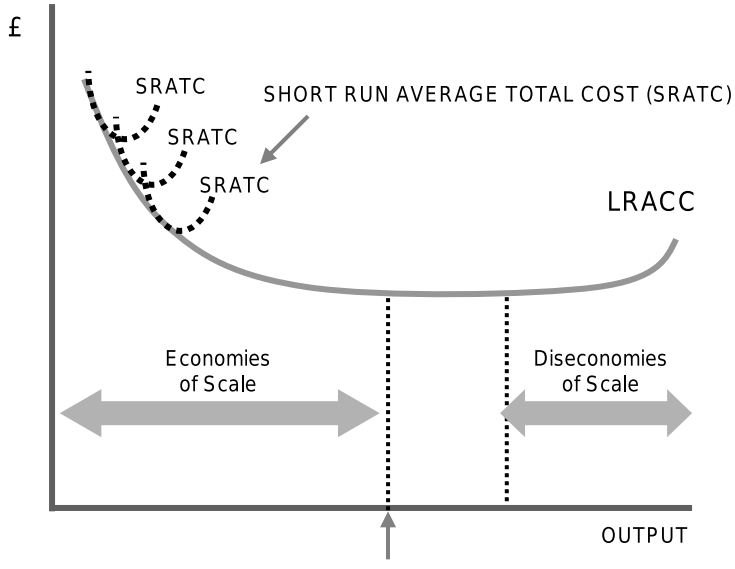
In some, the minimum efficient scale is reached at a relatively low level of output. If the minimum efficient scale is relatively small compared to total market size (a good example would be computer software), many companies can exist in the same space.

In other industries, such as utilities or metals, the minimum efficiency scale is quite large due to the high ratio of fixed costs to variable costs. In these types of industries, only a few major players tend to dominate the space.

Diseconomies of scale

It is possible that increasing output may lead to average costs rising in the long run. This is known as diseconomies of scale. Diseconomies of scale tend to arise from management problems. As the firm grows it becomes increasingly difficult to keep control of operations leading to inefficiencies. Bureaucracy (or 'red tape') is often a response to the fear of this loss of control and will also cause costs to rise.

Long Run Average Cost Curve (LRACC)



The Minimum Efficient Scale (MES)

6. Market structures

6.1. Introduction

The theory of the firm attempts to explain how firms behave (i.e. how much they produce) within the market in which they operate.

It assumes that firms want to operate at levels that will **maximise profits**. The threat of a predator company buying the firm and making it more efficient, coupled with share options for managers, both act as motivation for the company to operate efficiently and maximise profits.

We will look at this under three types of market structure: perfect competition, monopoly and oligopoly.

6.2. Perfect competition

Introduction

Perfect competition exists when:

- There are a large number of firms supplying to a large number of customers
- Each firm's output has no overall effect on price, i.e. each firm is a **price taker** (rather than price maker)
- There are no barriers to entry
- The produce of different firms is **homogeneous**, i.e. there is no product differentiation

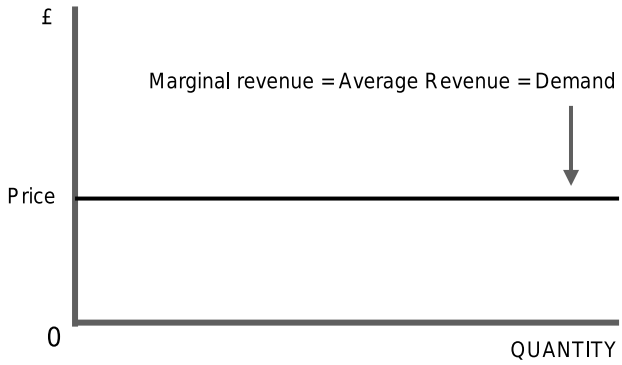
Profit maximising output in perfect competition

Firms in perfect competition face a flat demand curve. This is consistent with the idea of a firm being a price taker: its level of output does not influence the price it receives.

Marginal revenue (MR) is the extra revenue the firm receives for selling one additional unit of output. Because the demand schedule is flat under perfect competition, the extra revenue received for each extra unit does not change. Marginal revenue will therefore equal price.

Average revenue (AR) for a given level of output is calculated by dividing total revenue by the level of output. As the demand curve is flat, the average revenue will remain constant. Average revenue will therefore also equal price.

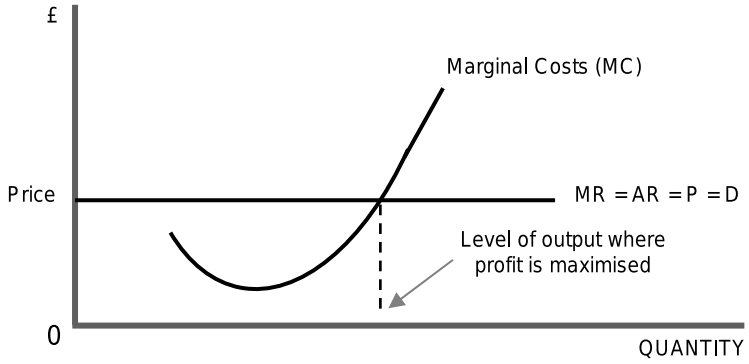
Marginal revenue for a firm in perfect competition



A firm seeking to maximise profits will output at a level where marginal costs equal marginal revenues (MC = MR).

This is because when marginal costs are lower than marginal revenue, increasing output adds to profits. When marginal costs exceed marginal revenue increasing output reduces profits.

Profit maximisation for a firm in perfect competition



The optimum level of output for **any** firm seeking to maximise profits will be where **marginal cost equals marginal revenue**.

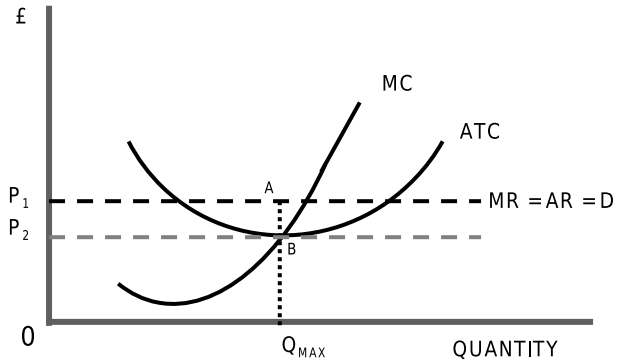
Long run equilibrium in perfectly competitive markets

Long run equilibrium in a perfectly competitive market will be the price and output levels where the participating firms make neither economic losses nor profits; they will achieve normal profit only.

The diagram below shows a firm in a perfectly competitive market operating at a profit maximising level (MC = MR) and receiving price P1. The profits it generates per unit is the distance AB. These profits are supernormal (as they exceed average total costs, which include opportunity costs) and therefore new firms will be attracted to the industry.

New firms entering the market will push the price (and marginal revenue curve) down to P2 (the long run equilibrium price) eliminating any supernormal profits.

Supernormal profits eliminated by new firms entering the market:

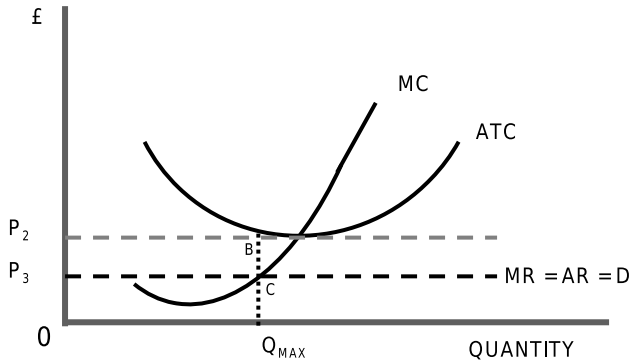


If firms in a perfectly competitive market are receiving a price below their average total costs (P3, on the diagram below), losses will occur. These losses are the difference between B and C.

Note, in the short run, a company in perfect competition will continue to produce, even if **losses** are being made, if average variable costs are covered.

Many firms will find these losses intolerable and leave the industry, allowing the price to rise to P2, enabling firms to make normal profits.

Supernormal losses eliminated by firms exiting the market:



Long run equilibrium for perfectly competitive markets is where average revenue equals average costs (AR = AC). It is also worth noting that marginal revenue will equal marginal cost (MR = MC) as the firm is maximising profits, also AR = MR because the demand curve is flat.

6.3. Monopoly

A monopoly exists when:

- There is one firm in the industry
- The firm is a price maker
- There are barriers to entry

Profit maximising output in a monopoly

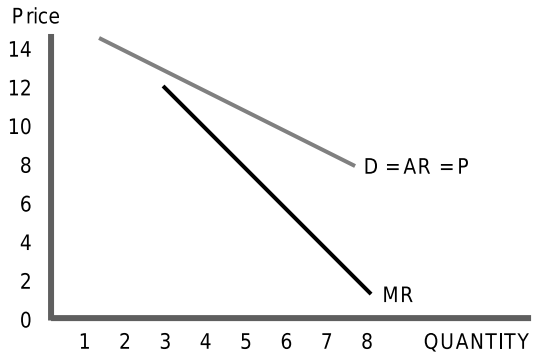
A monopolist will produce at a level where marginal revenue equals marginal costs.

Marginal revenue for a monopolist is not a horizontal line as it is for a firm in perfect competition. Monopolists face a downward sloping demand curve. As the table below shows, marginal revenue is also downward sloping, but at twice the rate of the demand curve.

Quantity (Q)	Price (P)	Total Revenue (TR = Q x P)	Average Revenue (AR = TR / Q)	Marginal Revenue (MC = ΔTR/ΔQ)
1	15	15	15	
2	14	28	14	13
3	13	39	13	11
4	12	48	12	9
5	11	55	11	7
6	10	60	10	5
7	9	63	9	3
8	8	64	8	1

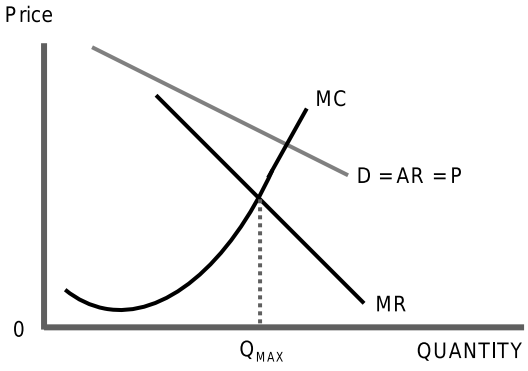
The steeper marginal revenue curve is shown more clearly when the figures are plotted on a graph.

Downward sloping demand curve and marginal revenue curve



The marginal cost curve is now added to determine the profit maximising output.

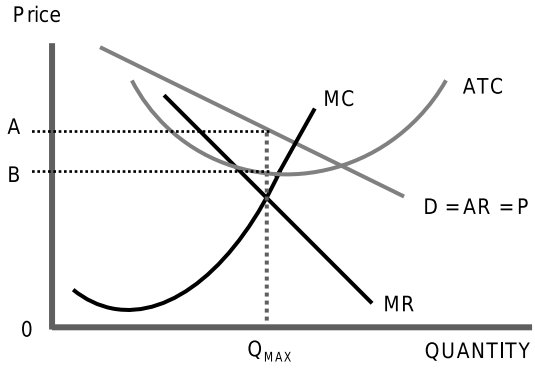
Profit maximising output for a monopolist facing a downward sloping demand curve



Equilibrium profits for a monopolist

The profit for a monopolist is shown on the diagram below as the difference between points A and B. These are in excess of the firm's average total costs and are therefore supernormal profits.

Equilibrium long run profits for a monopolist



These supernormal profits are not under threat from new entrants to the industry due to the firm's monopolistic position. As a consequence, **monopolists maintain supernormal profits in the long run**.

Price discrimination

Price discrimination occurs when a monopolist charges different prices to different groups of consumers. Perfect price discrimination is when all customers are charged different prices.

Monopolists are able to discriminate in a number of ways:

- **Time**. Charging different prices for using rail travel. Commuters pay more than day tripping shoppers
- **Place**. The price may be varied according to the location of the buyer
- **Income**. It may charge a lower price to lower income groups. A hairdressers may charge pensioners less, for example

The monopolist will produce at the point where demand meets consumption and must ensure, however, that those consumers paying the lower price cannot sell to those being charged the higher price.

6.4. Monopolistic competition

Monopolistic competition involves many producers selling similar products although there is some scope for differentiation between them.

Monopolistic competitive markets have the following features:

- There are many producers and many consumers in the market, and no business has total control over the market price
- Consumers perceive that there are non-price differences among the competitors' products
- There are few barriers to entry and exit
- Producers have a degree of control over price

Although producers have a degree of control over price and can sustain some level of supernormal profit, they will rearely reach the point of full economies of scale (average total costs will not be minimised).

6.5. Oligopoly

Oligopolies are the most common form of market.

Oligopolistic markets have the following features:

- The industry must be dominated by relatively few firms
- The firms must be independent of each other
- There are typically significant barriers to entry

Price behaviour

These industries display several behaviours.

- **Cartel** – an industry where the few producers collude to fix a price and level of output at which they produce.
- **Kinked demand** – this behaviour is displayed where all members of the oligopoly react to each others' price behaviour. I.e. where one company drops its prices, all other follow. We often see supermarkets leading the way on forecourt petrol prices, for example.
- **Price leadership** – where one of the oligopoly is more dominant that the other, they can dictate the price and the other are likely to follow. A for of price leadership called predatory pricing see the dominant firm setting prices at an artificially low level to drive out the small competitors. This is illegal in most economies.
- **Game theory** – this is linked to the other behaviours, but is more speculative behaviour where members of the oligopoly try to anticipate price behaviour of their competitors.

7. Assessing industries and companies

7.1. Introduction

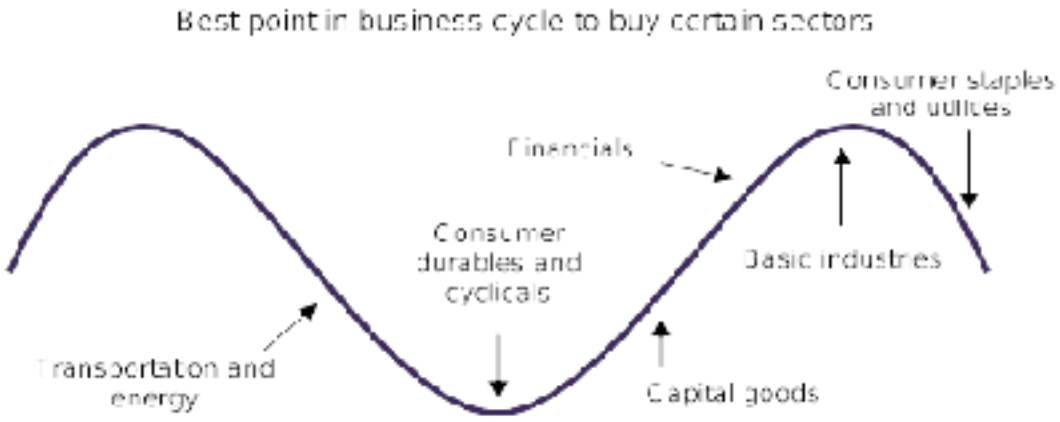
Investment analysts are looking to evaluate the potential of a business or industry from both a valuation and a performance perspective. Accounting ratios, such as the P/E ratio, can be used to evaluate a company's value and here we will consider some of the methods used to evaluate business performance.

7.2. The economic (business) cycle

The economy goes through a cycle of boom and bust, displaying peaks and troughs. However, there is typically a long-term upward trend.

The investment cycle

Theorises that there is an optimum point in a cycle to buy certain sectors:



Porter's five competitive forces

An approach to competitor analysis and profitability within an industry is given by Michael Porter's five forces:

- **Bargaining powers of suppliers**: determines ease of input substitution, influence of inputs on industry costs, importance of suppliers to product differentiation
- **Bargaining power of customers**: determines availability of substitutes, buyer price sensitivity, costs for buyers to switch firms
- **Threat of new entrants**: influenced by barriers to entry such as economies of scale, brand identity and government competition policy
- **Threat of substitutes**: the cost and ease with which buyers can switch between products
- **Rivalry between competitors**: affected by product differences, brand identity and switching costs

These five forces influence price, costs and investment in an industry, which in turn are important factors in determining profitability.

7.3. Product life cycles

This is the process through which products move from introduction to obsolescence, and is important in understanding firms and their industries:

- **Introduction phase**: sales growth slow and high promotion costs, giving low profits or even losses
- **Growth phase**: rapid sales increases leading to higher profits, but may attract competition leading to a need for innovation
- **Maturity phase**: well-known product, advertising falls, greater economies of scale, more competition, so still a need for innovation
- **Decline phase**: loss of market share and profitability. Consider product relaunch at this stage
- **Obsolescence**: profits disappear

Time periods involved vary according to products and it is assumed that consumers do not revert back to previous preferences. Hence, whilst the product life cycle has certain uses, it is not a great practical tool for prediction purposes.

7.4. SWOT analysis

Another common form of analysis of a firm's position involves analysing the following factors:

- **Strengths**: i.e. what is the firm good at?
- **Weaknesses**: in general, what is the firm worst at doing?
- **Opportunities**: focus on new markets, technologies, competitor weaknesses and changes in external factors.
- **Threats**: adverse economic factors, social and legal changes and competitor activity.

SWOT analysis has become a common and useful way of examining the business environment that a company is exposed to and the company's place within that environment.

7.5. Product, place, promotions and price

Advertising and marketing professionals tend to focus on the four Ps when studying a firm from a competitive advantage and threat perspective:

- **Product**: products should be what buyers expect and should do what they are intended to do.
- **Place**: products should be readily available where prospective buyers tend to shop. E.g. internet, high street, mail order.
- **Promotion**: advertising and other communication should be relevant for the particular type of customers for that product.
- **Price**: set at a level that represents good value for money to customers.

8. Microeconomics: summary

8.1. Key concepts

Microeconomics: the basics

- 8.2.1 Distinguish between explicit (accounting) costs and opportunity (economic) costs
- 8.2.2 Explain the concept of normal, supernormal and sub-normal levels of profit

Supply and demand

- 8.1.1 Explain the laws of supply and demand
- 8.1.2 Distinguish between movements along demand and supply schedules and shifts thereof
- 8.1.3 Identify the factors that cause a demand or supply schedule to shift

Elasticities of demand

- 8.1.4 Describe, calculate and interpret own price elasticity of demand and its impact on total revenues
- 8.1.5 Identify the factors that determine own price elasticity of demand
- 8.1.6 Explain, calculate and interpret the concept of cross elasticity of demand (as applied to substitute and complementary goods)
- 8.1.7 Explain, calculate and interpret elasticity of supply and its dependence on the flexibility of factors of production

The production process

- 8.3.1 Define short-run and long-run in the context of cost behaviour
- 8.2.3 Define fixed costs, variable costs, marginal costs, total costs and average costs
- 8.2.4 Explain the shapes of the short-run marginal cost, average variable cost, average fixed cost, and average total cost curves
- 8.2.5 Explain the law of diminishing marginal returns and its impact on the shape of short-run cost curves
- 8.2.6 Explain the relationship between total revenue, average revenue and marginal revenues for a normal demand schedule
- 8.3.2 Explain the notions of economies of scale, a minimum efficient scale and diseconomies of scale and their impact on the shape of the long-run average cost curve
- 8.3.3 Explain the relationship between long-run marginal costs and long-run average costs and explain how this determines the level of output for productive efficiency to arise

Market structures

- 8.2.7 Explain the relationship between marginal cost and marginal revenue, and how this determines the profit maximising level of output for a firm

- 8.4.1 Identify the conditions that characterise a perfectly competitive ('price-taker') market
- 8.4.2 Explain the conditions of long-run equilibrium for a price-taker
- 8.4.3 Explain the market mechanics through which only normal levels of profit can be earned by price takers in the long-run
- 8.4.4 Explain the relationship between short-run supply and marginal cost for a price-taker
- 8.4.5 Describe the shape of the long-run supply curve for a perfectly competitive industry
- 8.4.6 Explain the decision by a price-taker facing economic losses to either continue to operate or shut down
- 8.4.7 Identify the conditions that characterise a pure monopoly
- 8.4.8 Explain the conditions of long-run equilibrium for a monopoly
- 8.4.9 Distinguish between the equilibrium price, output levels, and productive efficiency of a monopoly compared to a perfectly competitive firm
- 8.4.10 Explain price discrimination and the conditions under which it will prevail
- 8.4.11 Describe the characteristics of monopolistic competition and oligopoly

Assessing industries and companies

- 8.5.1 Describe how business cycles may affect relative industry performance
- 8.5.2 Identify Porter's five competitive forces that drive industry competition
- 8.5.3 Describe the product life cycle and the characteristics of each phase (introduction, growth, maturity and decline)
- 8.5.4 Describe the concept of strengths, weaknesses, opportunities and threats (SWOT) analysis and its role in corporate evaluation
- 8.5.5 Describe the 4Ps marketing mix (product, price, promotion and place) in the context of analysing competitive advantage and threats

Now you have finished this chapter you should attempt the chapter questions.