



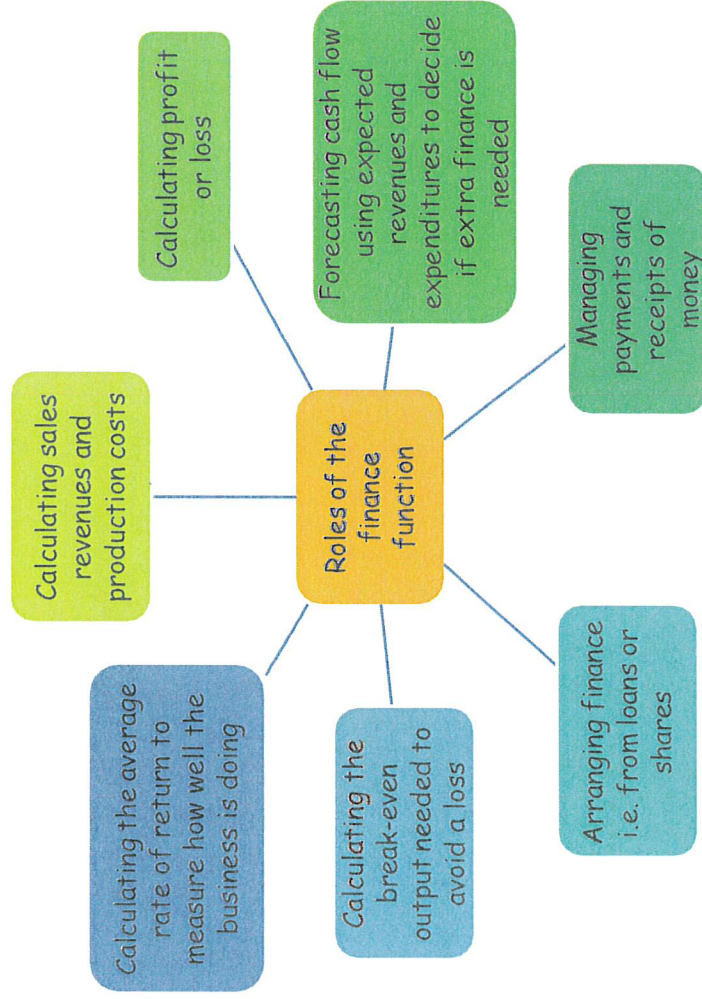
5.1 The role of the finance function

Role	The jobs that are done
Forecast	Is an estimate or prediction of what is to come
Finance	Money raised and used by a business
Finance function	Refers to the finance department, which is usually only found in larger businesses. Small businesses usually employ a firm of accountants to help them.
Financial information	Includes details of profit, loss, cash flow, break-even, profit margin and average rate of return. This information is used in business decision making

Finance function and decision making

Example: Apple wants to bring out a new product. function would:

- create a cash flow,
- provide information on spending on marketing,
- create a break-even chart,
- provide information on production costs,
- provide information on potential profits
- compare the costs of different types of selling, such as online or through a shop.



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Supporting business decisions

Businesses may require financial information relating to many different issues and decisions. These may include:

- **A marketing campaign** - the finance function may set a budget to ensure that it does not spend money that the business cannot afford. During and after the campaign, the finance function may provide sales and profit information to review whether it was a success.
- **Business growth** - when making decisions about how to expand, managers will rely upon the finance function to provide information such as sources of finance, costs, break-even point and any forecasted changes in sales.
- **Economic change** - a change in the external environment, such as a recession, may require advice from the finance function about how the business can reduce its costs or improve its cash flow to ensure that it is able to survive.

knowledge and understanding

5.2 Sources of Finance



	Short/medium/long term? Type of business available to	Advantages	Disadvantages
Owners capital - owners savings invested	Short, medium or long term, sole traders and partnerships	No need to repay the money No interest has to be paid No cost to raise the finance	Limited to amount of savings they have
Retained profit - money not given out as profit and kept within the business	Medium/ long term All businesses	No interest has to be paid No need to repay money No cost to raise the finance	Only available to businesses that have made a profit
Sale of assets - goods etc. owned are sold to raise money	Short, medium or long term All businesses	Can raise large amounts of capital depending how much the asset is worth Good if asset is no longer used	Can take time to sell the asset May not be possible to find a buyer
Overdraft - bank makes available more money than they have in their account	Short term All businesses	Can meet short-term cash flow problems Can continue trading in the short term	Interest is charged - it can be expensive
Trade credit - business sells goods after agreeing to pay for them at a later date	Short term All businesses	Allows the business buying the goods to sell them on to a customer before payment is made to the supplier period of credit is usually interest free	Interest is charged if the credit is not repaid within the time limit
Taking on a new partner - the new partner invests their own money into the business	Long term, partnerships only or sole traders who become partnerships	May bring new skills/ ideas to the business No cost to raise the finance	The new partner will have a say in the running of the business The new partner will be entitled to a share of any profits
Loan - set amount of money borrowed for a set period of time	Medium or long term All businesses	Repayment is spread over a period of time Paying in instalments can help with budgeting	Interest has to be paid Business may need to risk an asset as security
Share issue - new shares are sold to raise more money	Long term, limited companies only	A lot of finance can be raised from many investors Money does not have to be paid back No interest has to be paid	Dividends may have to be paid Shareholders are entitled to have a say in the running of the business The business may be taken over (PLCs)
Crowdfunding - money raised through an appeal to the public who are supporters of the business	Medium or long term All businesses	A lot of money can be raised from a lot of contributors Used for start-up or expansion	Interest will need to be paid on loans Profits may need to be shared if equities are sold

5.2 Revenue, costs, profit and loss

Revenue	The money received from sales. Total Revenue = Quantity (Q) x Price (P)
Fixed Costs	Costs that stay the same regardless of a change in output e.g. rent, salaries, business tax, insurance and advertising etc.
Variable Costs	Costs that change as output changes e.g. wages, raw material costs, energy used in production, advertising etc.
Total Costs	The addition of total fixed costs and total variable costs TC = TFC + TVC
Profit	Profit = Revenue - total costs
Cost of sales	The cost to the business of producing good to sell e.g. buying materials, buying stock to sell, employing workers to make a product
Expenses	The costs of operating the business e.g. rent or mortgage, wages and salaries, insurance, heating and lighting and advertising
Gross Profit	Sales - costs of sales Sales refers to sales income which is the same as total revenue
Loss	When the costs of the business are greater than the revenue made
Net Profit	Gross Profit - Expenses
Gross Profit Margin	Gross Profit divided by sales (or total revenue) x 100
Net Profit Margin	Net Profit divided by sales (or total revenue) x100

Revenue example

A business sell 25 cars sold at £7,500 each
 $TR = Q \times P$
 $TR = 25 \times 7,500$
 $TR = \text{£}187,500$

Profit example

Total revenue for a business is £22m and total costs is £12m
 $P = TR - TC$
 $P = \text{£}10m$

How to increase revenue	How to reduce costs
Increase the price of the product	Employ new technology instead of workers
Reduce the price to increase sales	Find a cheaper supplier
Increase sales by increasing advertising	Ask a supplier to reduce their prices
Produce more by having a new factory or shop or buying a competitor	Ask workers to take a pay cut
Sell a wider range of products	

Gross Profit example

A business with a sales revenue of £35,000 and a cost of sales of £15,000
 $GP = \text{Sales (TR)} - \text{Cost of sales}$
 $= \text{£}35,000 - \text{£}15,000$
 $GP = \text{£}20,000$

Net Profit example

Gross Profit from above and expenses of £12,000
 $NP = \text{Gross Profit} - \text{Expenses}$
 $= \text{£}20,000 - \text{£}12,000$
 $NP = \text{£}8,000$

Costs example

Total variable costs:

Number of workers x Wage paid to each
 10 workers x £400 = £4000

Cost of materials per product x number of products sold

£3 per product x 6,000 = £18,000

Total variable cost = £4000 + £18,000 = £22,000

Total cost:

$TC = TFC + TVC$

= £12,000 + £22,000 = £34,000

Profitability ratios

Calculation and interpretation of profitability ratios

Example

Gross profit margin is calculated by:

$$\frac{\text{Gross profit} \times 100}{\text{Total revenue}} = \text{Gross profit margin}$$

$$\frac{\text{£20,000} \times 100}{\text{£35,000}} = 57.1\%$$

Example

Net profit is calculated by:

$$\frac{\text{Net profit} \times 100}{\text{Total revenue}} = \text{Net profit margin}$$

$$\frac{\text{£8,000} \times 100}{\text{£35,000}} = 22.8\%$$

The **gross profit margin** compares the total revenue earned with the cost of the sales it makes.

The **net profit margin** compares the gross profit the business earns with its expenses.

Although profit and loss figures are useful, gross and net profit margins give a better indication of how well a business is performing.

They can help the business to know where its performance can be improved and whether action needs to be taken. Gross and net profit margins are discussed in the table below.

Performance	Gross profit margin	Net profit margin
Improving performance	Gross profit margin rises: 2017 = 44% 2018 = 57.1%	Net profit margin rises: 2017 = 18% 2018 = 22.8%
Reasons for improvement	- Total revenue rose faster than cost of sales - Total revenue fell but costs of sales fell more - Total revenue rose and cost of sales fell	- Gross profit rose faster than expenses - Gross profit has fallen but expenses fell more - Gross profit rose and expenses fell
Performance	Gross profit margin	Net profit margin
Worsening performance	Gross profit margin falls: 2017 = 64% 2018 = 57.1%	Net profit margin falls: 2017 = 18% 2018 = 12.8%
Reasons for worsening performance	- A fall in total revenue and a rise in the cost of sales - A rise in total revenue but a bigger rise in cost of sales - A fall in total revenue but a smaller fall in cost of sales	- A fall in gross profit and a rise in expenses - A rise in gross profit but a bigger rise in expenses - A fall in gross profit but a smaller fall in expenses
Possible actions	- Increase total revenue by better marketing, for example: - Raise (or reduce) price - Increase advertising - Sell in new markets i.e. abroad - Increase the range of products sold - Reduce cost of sales by, for example: - Negotiating a lower price from suppliers - Buy from cheaper suppliers	- Increase total revenue by better marketing, for example – see strategies to the left - Reduce expenses by, for example: - Reducing the wage bill (reducing hours, cutting hourly pay, replacing labour with machines) - Saving on heating and lighting bills



Average Rate of Return

How to calculate ARR

Step 1: Calculate the total profit from the investment over the life of the investment

Total revenue (from the investment) - cost of the investment = Profit over the life of the investment

Step 2: Calculate the annual average profit per year

$$\frac{\text{Total Profit}}{\text{Life of the investment (years)}} = \text{average annual profit}$$

Step 3: Calculate the ARR

$$\frac{\text{Average annual profit}}{\text{Cost of investment}} \times 100$$

ARR is always recorded as a %

Average rate of return (ARR) is used to judge whether investment in the business by its owners is worthwhile - will it give a good enough return?

ARR is a forecast - it is based on the expected profit the investment will make, compared with the cost of the investment.

Worked example ARR

A business makes an investment in a piece of machinery costs £300,000, used over a period of 3 years. It earns a total revenue of £570,000

Step 1: TR - cost of the investment

$$£570,000 - £300,000 = £270,000$$

Step 2:

$$\frac{\text{Total Profit}}{\text{Life of the investment (years)}} = \text{average annual profit}$$

$$\frac{£270,000}{3} = £90,000$$

Step 3:

$$\frac{\text{Average annual profit}}{\text{Cost of investment}} \times 100$$

$$\frac{£90,000}{£300,000} \times 100 = 30\%$$

Business use ARR to:

- Compare different investment e.g. machine A or machine B
- Compare an investment with a saving - is it better to invest or save the money?

Advantages	Disadvantages
ARR provides a percentage return which can be compared with a target return or other projects	Does not take into account cash flows - only profits (they may not be the same thing)
ARR focuses on profitability - key issue for shareholder/investors	Takes no account of the time value of money (how the value of money changes over time)
Easy to work out the calculation and percentages are easily understood by financial managers	Treats profits arising late in the project in the same way as those which might arise early

5.3 Break-even

Definitions

Break-even quantity: the amount a business must sell to earn enough revenue to just cover its costs so it does not make a profit or loss.

Margin of safety: actual sales – breakeven sales. The amount a business' actual output is greater than its break-even level of output

Total revenue: selling price x quantity

Fixed costs: costs that do not change depending on output

Variable costs: costs that change depending on the level of output

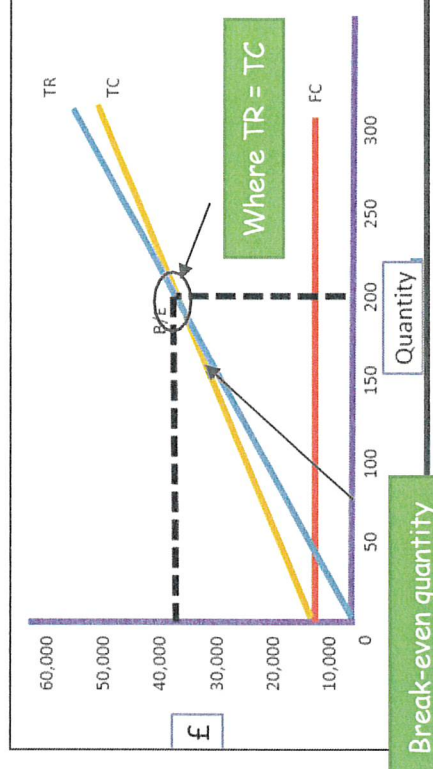
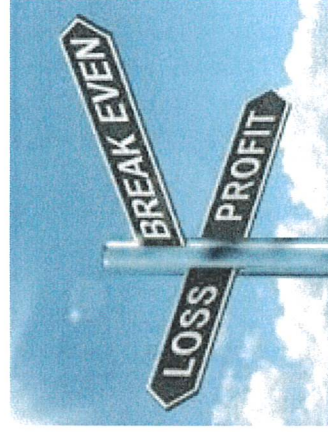
Total costs: total fixed costs + total variable costs

Formula: **Total fixed costs**

Contribution

(Selling price – variable cost per unit)

Break-even is always recorded in units not £



Calculation example:

A toy manufacturer has total fixed costs of £50,000 per year

Variable costs per product sold are £2

The selling price of the toy is £6 each

Using the formula, calculate the break-even level of output

Formula: **Total fixed costs**

Contribution

(Selling price – variable cost per unit)

= 12,500 units

£50,000

£6 – £2

Benefits of Break-even analysis:

- Helps with **planning** how much the business needs to sell in order to make a profit
- Helps the business to **secure a loan from the bank** because it shows the owner has a **clear plan** and is **less risky** for the bank to give out the loan
- Can be used to **make judgments about prices and costs**. For example, if the business needs to increase the price in order to raise revenue
- Can be used to find the **expected level of profit for a certain level of output**

Limitations of break-even analysis

- It is **only a prediction**, the forecast figures may be different to actual figures
- The **cost of materials may change**. If the cost falls, the break-even level of output will decrease
- It is **difficult for businesses to calculate** if they sell a variety of products
- The **number of competitors in the market may change**. For example, if a new competitor entered the market, they may have to lower their price which would mean they would have to sell more to break-even

5.5. Cash flow

Cash flow forecast	Is a statement showing the expected flow of money into and out of a business over a period of time
Net cash flow	Is total inflow minus total outflow
Opening balance	Is the amount of cash available at the beginning of the month that was closing balance at the end of the previous month
Closing balance	Is the amount of cash left at the end of the month. This becomes the opening balance at the start of the next month
Total inflow	Is the total amount of cash flowing into a business
Total outflow	Is the total amount of cash flowing out of a business
Negative cash flow	Is when during one month, more cash is flowing out of the business than is flowing into it.
Positive cash flow	Is when during one month, more cash is flowing into the business than is flowing out of it.
Income	Is money that the business receives
Expenditure	Is money that the business pays out
Liquidity	Is the ability of a business to pay its short-term debts which must be paid in the near future
Expenses	Are the bills that a business has to pay in the near future, for example electricity
Cash	Is not simply notes and coins but money held in the bank
Profit	Is the revenue received by a business minus the costs of running a business

	Jan	Feb	Mar	Apr	May	Jun
Opening Balance	£150					£1250
Inflows						
Sales	£1000	£1000	£1500	£1200	£1200	£1500
Loan	£1000	£1000	£1500	£2200	£1200	£1500
Total Inflow						
Outflows						
Wages	£500	£500	£500	£500	£500	£500
Stock	£500	£400	£500	£500	£900	£400
Bills	£200			£200		
Total Outflows	£1200	£900	£1100	£1200	£1400	£900
Net Cash flow	-£200	£100	£400	£1000	-£200	£600
Closing Balance	-£50	£50	£450	£1450	£1250	£1850

Example Cash Flow Forecast

Importance of cash to a business

A business needs to pay its expenses. For example,

Wages and salaries, rent, suppliers, heating and lighting bills

What is the difference between cash and profit?

Cash is the money held in bank accounts and used to pay short-term debts.

Profit is calculated by subtracting total costs away from total revenue. A business could be short of cash one month but still make a good profit. For example, if they are waiting for a big order to be paid by the customer.



Advantages of a cash flow forecast

- A **planning tool kit** can be shown to banks to help them to **secure a loan**
- **Anticipates periods of cash shortage** - they can then come up with a **solution** e.g. short-term sources of finance
- **Provides targets** - they may target reducing specific parts of spending to make sure that they have sufficient

Limitations of a cash flow forecast

- It is **only a forecast** and circumstances may change
- **Suppliers may change their prices**
- A **new competitor** may enter the market