Course Companion

IGCSE Economics

Every topic handout in one volume

全部专题讲义合集

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The basic economic problem

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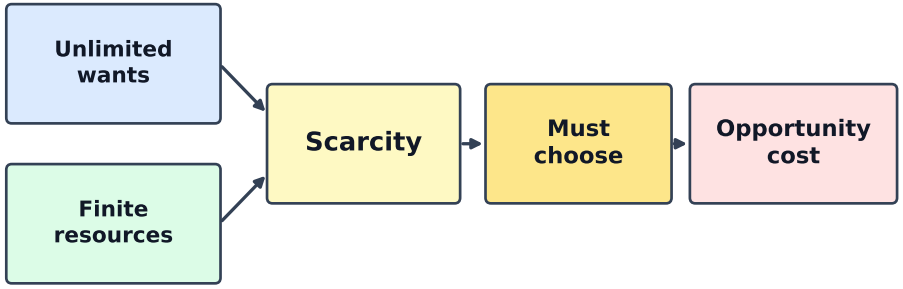
The economic problem

Economics is about how people use **resources** 资源 to meet their needs and wants. The main idea is simple. People want a lot, but there are not enough resources to make everything. This is the **economic problem** 经济问题.

Two facts cause the economic problem:

- Resources are **finite** 有限的. There is only a limited amount of them.
- People's **wants** 欲望 are unlimited. People always want more and better things.

Because wants are unlimited but resources are limited, resources are **scarce** 稀缺. We call this problem **scarcity** 稀缺性. Scarcity is the root of all economics.



The economic problem: scarcity forces choice, and every choice has an opportunity cost

Goods, services, and choices

We use resources to make **goods** 物品 (things you can touch, like food and phones) and **services** 服务 (jobs done for you, like a haircut or a bus ride).

Because resources are scarce, we cannot have everything. So everyone must make **choices**. Scarcity forces four groups to choose:

- **consumers** 消费者 – people who buy and use goods and services. They choose what to buy.
- **workers** 工人 – they choose which job to do.
- **producers** 生产者, also called **firms** 企业 – they make goods and services. They choose what to produce.
- **governments** 政府 – they choose what to provide and how to spend public money.

Economic goods and free goods

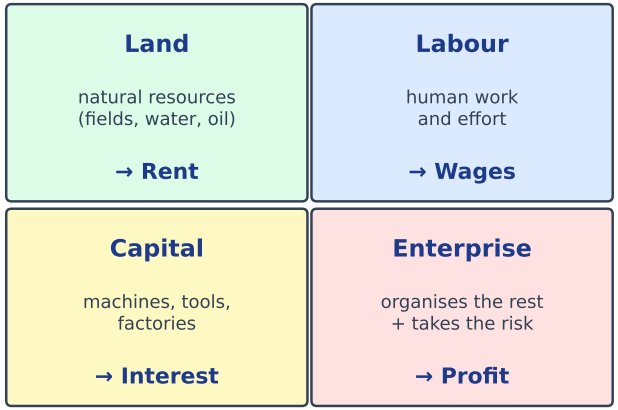
Most things are **economic goods** 经济物品. They are scarce, so making or using one means giving something else up. Economic goods have an **opportunity cost** 机会成本 (explained below).

A few things are **free goods** 免费物品. They are not scarce – there is enough for everyone and they cost nothing to use. Examples are the air you breathe and sunlight. A free good has no opportunity cost.

Be careful: a "free" sample or a "free" gift is *not* a free good. Resources were used to make it, so it is still an economic good.

Factors of production

To make goods and services, firms use four types of resource. We call them the **factors of production** 生产要素.



Exam: name each factor with its reward

The four factors of production and the reward each one earns

The four factors

Factor	What it is	Example
land 土地	natural resources	fields, water, oil, forests
labour 劳动	human work	a teacher, a builder, a nurse
capital 资本	man-made things used to produce	machines, tools, factories
enterprise 企业家才能	organising the other three and taking risks	a person who starts a business

The person who provides enterprise is the **entrepreneur** 企业家. They bring the other factors together and risk their own money to start and run a business.



Land – natural resources such as farmland – is one of the four factors of production

The reward to each factor

Each factor earns a **reward** 报酬 – the income it gets for being used:

Factor	Reward
land	**rent** 地租
labour	**wages** 工资
capital	**interest** 利息
enterprise	**profit** 利润

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Mobility, quantity and quality

The **mobility** 流动性 of a factor means how easily it can move to a different use or place. A worker with many skills can change jobs easily, so labour is mobile. A worker with only one skill, or a factory that cannot be moved, is less mobile.

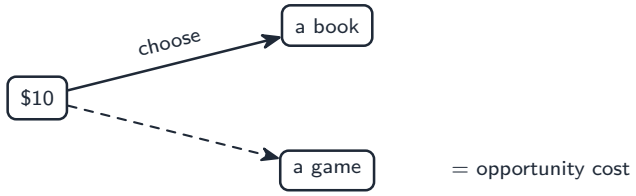
The quantity and quality of factors can change:

- **Quantity** can rise or fall. The amount of labour grows if the birth rate rises or people move into the country to work. Land can be lost to the sea or gained by draining it.
- **Quality** can rise. Training and education make labour better. New technology makes capital better. Higher quality means each factor can produce more.

Opportunity cost



Consumers choosing what to buy at a busy market – scarcity forces everyone to make choices



Choosing one thing means giving up the next best alternative

When you choose one thing, you give up the next best choice. That is the real cost of your decision.

Opportunity cost is the next best **alternative** 替代选择 you give up when you make a choice.

It affects every decision-maker:

- A **consumer** who buys a game gives up the book they could have bought instead.
- A **worker** who takes one job gives up the pay of the next job they could have done.
- A **producer** who makes more cars uses factors that could have made trucks.
- A **government** that builds a hospital gives up the school it could have built with the same money.

Opportunity cost matters because resources are scarce. Every choice has a cost, even when no money changes hands.

Production possibility curve (PPC) diagrams

A **production possibility curve** 生产可能性曲线 (PPC) shows the largest amounts of two goods a country can make when it uses all its resources fully.

Imagine an economy that makes only two types of good, one on each axis:

- **capital goods** – used to make other goods, like machines.
- **consumer goods** – used up by people, like food and clothes.

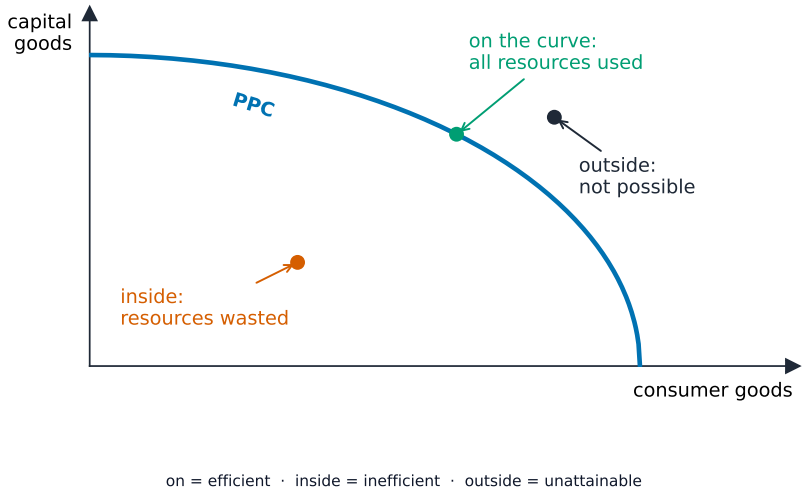
The PPC is the line joining every point where the economy uses all its resources to make the most it can.

Reading the diagram

Picture the two goods on the two axes. The PPC is a curve that bends from one axis down to the other (it usually bows outward, away from the corner):

- A point **on** the curve: all resources are used fully. The economy makes the most it can.
- A point **inside** the curve: resources are wasted or not all used – for example, there is **unemployment** 失业. The economy could make more.
- A point **outside** the curve: this is impossible now. There are not enough resources to reach it.

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A point on the curve uses all resources; inside the curve some are wasted (e.g. unemployment); outside is not possible with today's resources.

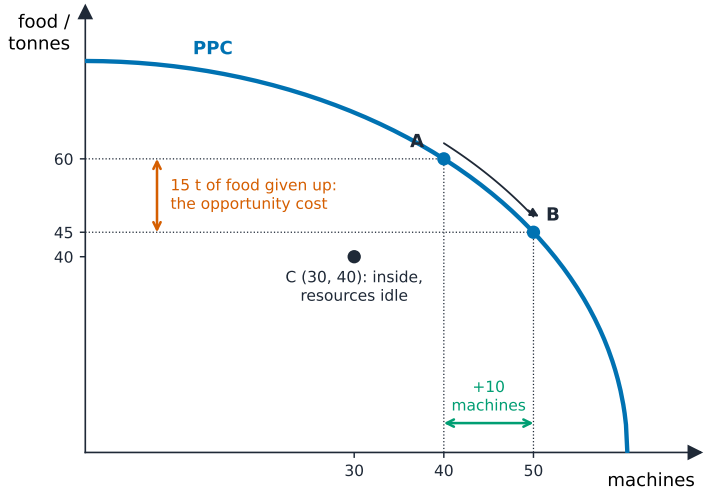
Movements along the curve

If the economy already uses all its resources (a point on the curve), making more of one good means making less of the other. You must move factors from one good to the other. This is a **trade-off** 取舍.

The amount of the second good you give up is the opportunity cost of the extra first good. This is why the PPC is a clear picture of opportunity cost.

> **Worked example.** An economy on its PPC makes 40 machines and 60 tonnes of food. To make 50 machines it must cut food to 45 tonnes. Give the opportunity cost of the extra machines. Then say what a point of 30 machines and 40 tonnes of food would tell you. The economy is already **on** the curve, so more of one good must mean less of the other: the 10 extra machines cost $60 - 45 =$ **15 tonnes of food**. That lost food **is** the opportunity cost, so quote it in tonnes of food - never in money. The second point lies **inside** the curve, which means resources are idle or wasted, most likely through unemployment; from there the economy could make more of **both** goods, so moving out to the curve costs nothing at all. Opportunity cost only bites once you are **on** the curve.

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From A to B: 10 more machines cost 15 tonnes of food. At C, inside the curve, the economy could make more of both.

Why the curve bows outward. Factors of production are not equally good at making everything. Look at this table for a different economy, also producing on its PPC:

Machines	Food (tonnes)	Food given up for 10 more machines
0	100	–
10	95	5
20	85	10
30	70	15
40	50	20

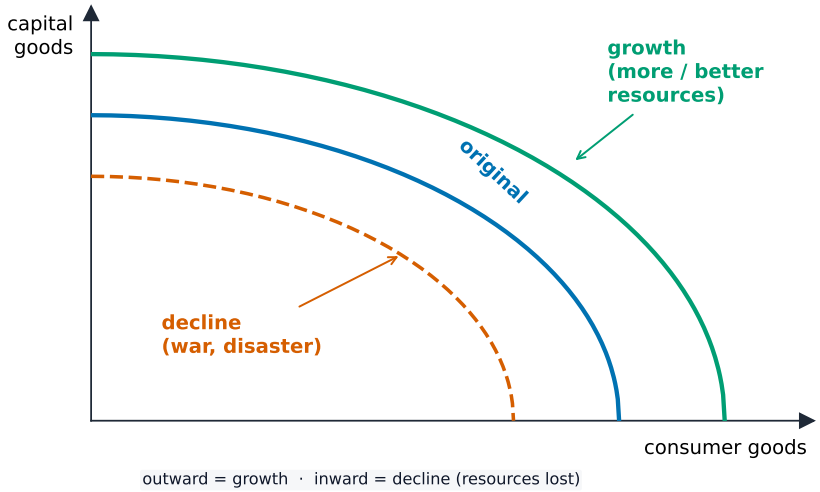
The first 10 machines cost only 5 tonnes of food: the economy moves the workers and land that are best at making machines and worst at farming. Each extra 10 machines costs more food, because now it must move farmers and farmland that are very good at food and not good at machines. The opportunity cost **rises**, and that is why the curve bends outward. If factors could switch with no change in skill, the opportunity cost would stay the same and the PPC would be a **straight line**.

Shifts of the curve

The whole curve can move:

- It shifts **outward** (to the right) when the country can make more of *both* goods. This is **economic growth** 经济增长. Causes: more resources (a bigger workforce, more land discovered) or better-quality resources (training, new technology).

- It shifts **inward** (to the left) when the country can make less. This is **economic decline** 经济衰退. Causes: fewer or worse resources – for example a war, a natural disaster, or using up **non-renewable resources** 不可再生资源 (resources like oil and coal that cannot be replaced once used).



More or better resources shift the whole PPC outward (growth); a war, disaster or using up resources shifts it inward (decline).

Do not confuse the two. Moving from inside the curve *to* the curve (by using idle resources) is a short-term gain. Moving the whole curve outward is a long-term change.

Data-response practice

This question follows the style of Paper 2. Try each part before reading the model answer.

Source: Building for the future in Lorvia

> Lorvia's government wants the country to produce more **capital goods**, such as machines and roads, so that it can grow faster. Last year the economy produced 20 units of capital goods and 80 units of consumer goods, using all its resources. The plan for this year is 40 units of capital goods and 60 units of consumer goods. Some families worry that there will be fewer goods in the shops. Lorvia also has many unemployed young people, and some factories stand empty.

(a) Identify one example of a capital good from the source. [1] Machines (or roads).

(b) Calculate the opportunity cost of the extra capital goods in the plan. [2] Capital goods rise by $40 - 20 = 20$ units and consumer goods fall by $80 - 60 = 20$ units. The opportunity cost of 20 more units of capital goods is the **20 units of consumer goods** given up (1 consumer good per capital good).

(c) Explain why producing more capital goods now could let Lorvia produce more of both goods in the future. [4] Capital goods are resources used to make other goods. More machines and roads raise the quantity and quality of Lorvia's factors of production, so the economy can produce more in the future. On a PPC diagram the whole curve **shifts outwards**, so Lorvia could later have more consumer goods **and** more capital goods than today.

(d) Analyse, using a PPC diagram, the situation described in the last sentence of the source. [6] Unemployed workers and empty factories mean Lorvia is **not** using all its resources. It is producing at a point **inside** its PPC (like the inefficient point in the PPC diagram above). From that point the country could produce more capital goods **without** giving up any consumer goods, by putting the unemployed workers and empty factories to work. So the opportunity cost of more capital goods would be zero until the economy reaches the curve. *Marks:* label both axes with the two goods, draw a curved PPC, mark a point inside it and show a move towards the curve.

(e) Discuss whether Lorvia should produce more capital goods and fewer consumer goods. [8] *For:* more capital goods raise future output, so living standards can rise faster in the long run. New roads and machines can also create jobs for the young unemployed. *Against:* consumers have fewer goods now, so today's living standards fall. Poorer families may struggle if the goods they need become scarce and their prices rise. The plan's benefits also take years to arrive and are not certain: machines are only useful if workers have the skills to use them. *Conclusion:* the plan is sensible if Lorvia first uses its **unemployed resources**, because then it can make more capital goods without cutting consumer goods. The government should move resources away from consumer goods only after that, and slowly, so that poorer families are protected. The answer depends on how many idle resources there are and how soon the new capital raises output.

Exam tips

- A curved (bowed-out) PPC shows **rising** opportunity cost; a straight-line PPC shows **constant** opportunity cost.
- **Scarcity** (unlimited wants, limited resources) forces **choice**, and every choice has an **opportunity cost** – the next best alternative you give up.
- Learn the four **factors of production** and the reward each earns: land–rent, labour–wages, capital–interest, enterprise–profit.
- On a **PPC**, a point *on* the curve uses all resources fully, *inside* wastes some (e.g. unemployment), and *outside* is impossible for now. Moving along the curve shows opportunity cost.

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- Moving *to* the curve (using idle resources) is a short-term gain; shifting the whole curve *outward* is long-term economic growth from more or better resources.

Vocabulary card meanings

goods: Physical items offered for sale. reward: What a factor of production is paid for its use. rent: Payment to the owner of land for letting others use it. mobility: How easily workers or capital can move to another use. alternative: Another option that could be chosen instead. economic decline: A period when output and incomes fall. non-renewable resources: Natural inputs that are not restored on a human timescale once they are used.

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The allocation of resources

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Markets and the price mechanism

Economics is split into two parts:

- **microeconomics** 微观经济学 – the study of single parts of the economy, such as one industry or one product.
- **macroeconomics** 宏观经济学 – the study of the whole economy, like total jobs, prices, and growth.

A **market** 市场 is any place or system where buyers and sellers meet to trade. It does not need a building – it can be online or over the phone.



A stock exchange is a market: as buyers and sellers trade, their offers set the price of each share

When a market is free, no one is in charge of deciding what to make. Instead, the **price mechanism** 价格机制 (the free movement of prices) **allocates** 配置 **resources** 资源 – it decides what is made, how, and for whom. Price does three jobs:

- the **signalling** 信号 function – a price change tells buyers and sellers what is happening. A rising price signals "make more"; a falling price signals "make less".
- the **incentive** 激励 function – a higher price gives **firms** 企业 a reason to produce more, because they can earn more.
- the **rationing** 配给 function – when a product is scarce, its price rises. The high price shares out the limited amount to those willing to pay.

Demand

Demand 需求 is the amount of a **good** 物品 that **consumers** 消费者 (buyers) are willing and able to buy at each price, in a period of time.

The **law of demand** 需求定律 says: when the price of a good rises, the quantity demanded falls; when the price falls, the quantity demanded rises. Price and quantity move in opposite directions – an **inverse relationship** 反向关系. This is true **ceteris paribus** 其他条件不变 (a Latin phrase meaning "all other things stay the same").

Movements and shifts

It helps to separate two ideas:

- **quantity demanded** 需求量 – the amount bought *at one price*.
- **demand** – the whole pattern of buying at every price.

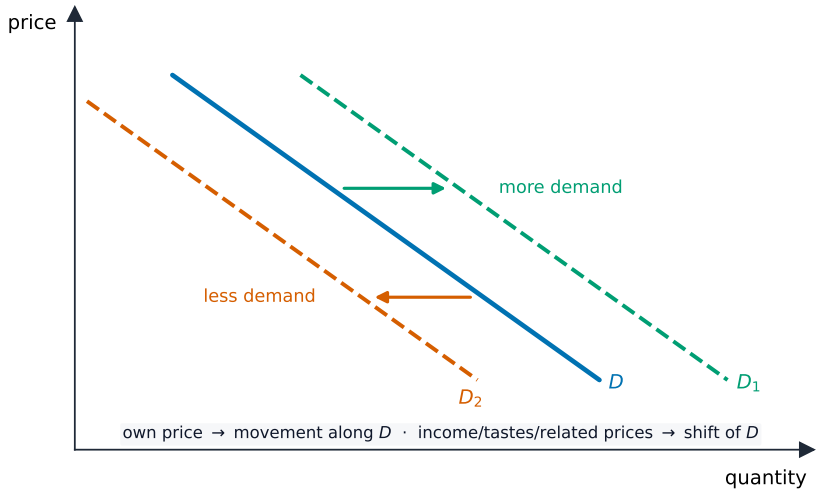
On a demand diagram, price is on the up axis and quantity on the across axis. The **demand curve** 需求曲线 slopes downward from left to right: high price, low quantity; low price, high quantity.

- A change in the good's **own price** causes a **movement along** the demand curve. You slide to a new point on the *same* line.
- A change in any other condition causes a **shift** 移动 of the whole curve. A rightward shift means more is demanded at every price; a leftward shift means less.

Conditions of demand

These are the things (other than the good's own price) that shift the demand curve:

- **income** 收入 – more income usually means more demand.
- **tastes** 偏好 – if a good becomes popular, demand rises.
- price of **substitutes** 替代品 – goods used *instead* of each other (tea and coffee). If coffee gets dearer, demand for tea rises.
- price of **complements** 互补品 – goods used *together* (cars and fuel). If cars get dearer, demand for fuel falls.
- **population** 人口 – more people means more demand.
- **advertising** 广告 – good adverts raise demand.



The demand curve slopes down. A change in income, tastes, population or related prices shifts the whole curve; a change in the good's own price is a movement along it.

Supply

Supply 供给 is the amount of a good that firms are willing and able to sell at each price, in a period of time.

The **law of supply** 供给定律 says: when the price rises, the quantity supplied rises too. Price and quantity move the same way – a **direct relationship** 正向关系. Firms supply more at a high price because they can earn more.

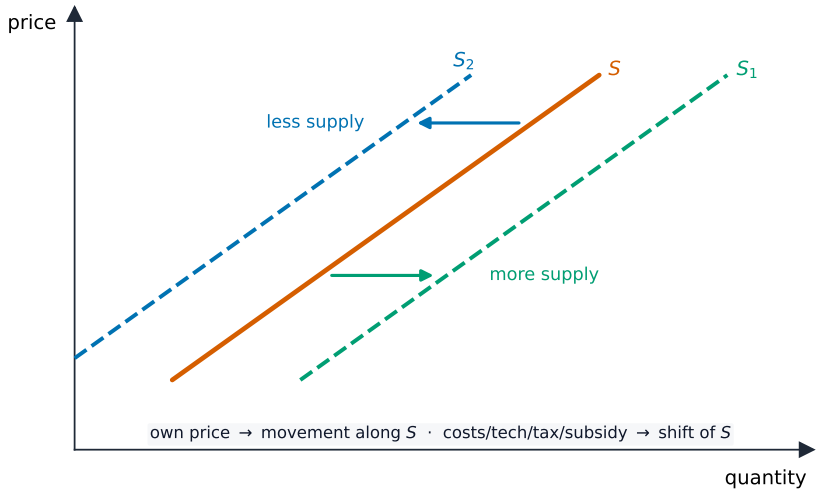
Movements and shifts

- **quantity supplied** 供给量 – the amount offered *at one price*.
- The **supply curve** 供给曲线 slopes upward from left to right.
- A change in the good's own price → a movement along the curve.
- A change in any other condition → a shift of the whole curve.

Conditions of supply

- **costs of production** 生产成本 – if costs rise, firms supply less (curve shifts left).
- **technology** 技术 – better technology lowers costs, so supply rises.
- **taxes** and subsidies – a **tax** 税收 on a good raises firms' costs (supply falls); a **subsidy** 补贴 (money from the government) lowers costs (supply rises).
- weather – important for farm goods.
- number of firms – more firms means more supply.

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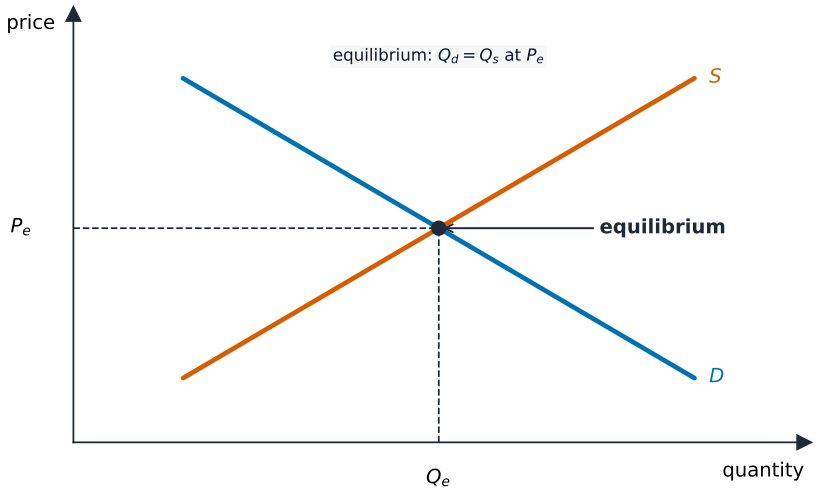
The supply curve slopes up. Lower costs, better technology or a subsidy shift it right; higher costs or a tax shift it left.

Price determination

The price of a good is set where demand and supply meet. Draw both curves on one diagram. They cross at a single point. This point gives:

- the **equilibrium** 均衡 price – the price where the amount buyers want to buy exactly equals the amount firms want to sell.
- the equilibrium quantity – the amount traded at that price.

At equilibrium, quantity demanded equals quantity supplied. There is no good left over and no buyer left waiting.



The price settles where the demand and supply curves cross – the equilibrium price P_e and quantity Q_e.

Price changes

When a curve shifts, the crossing point moves, so price and quantity change:

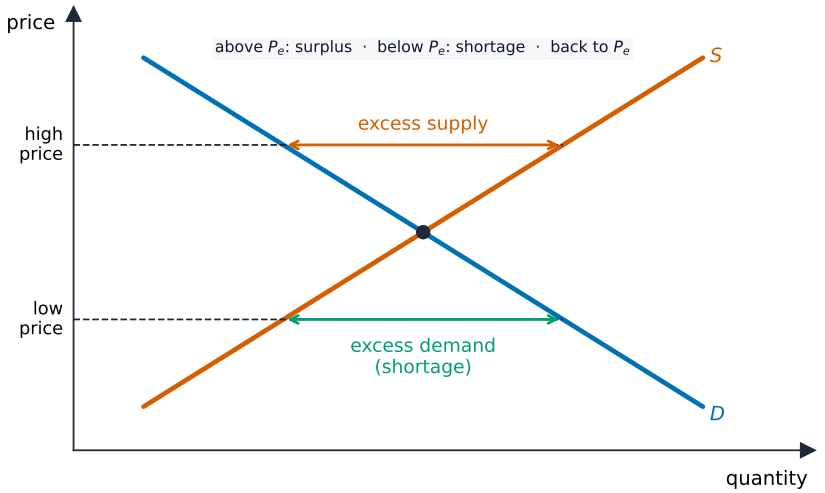
- Demand rises (shifts right): price rises and quantity rises.
- Demand falls (shifts left): price falls and quantity falls.
- Supply rises (shifts right): price falls and quantity rises.
- Supply falls (shifts left): price rises and quantity falls.

Disequilibrium

If the price is *not* at equilibrium, the market is in **disequilibrium** 非均衡:

- If price is **below** equilibrium, buyers want more than firms supply. This is **excess demand** 超额需求, also called a **shortage** 短缺. Buyers compete, so the price is pushed up until equilibrium returns.
- If price is **above** equilibrium, firms supply more than buyers want. This is **excess supply** 超额供给, also called a **surplus** 过剩. Sellers cut the price until equilibrium returns.

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Above the equilibrium price there is excess supply; below it there is excess demand (a shortage). Either way the price is pushed back to equilibrium.

Price elasticity of demand (PED)

Price elasticity of demand 需求价格弹性 measures how much the quantity demanded changes when the price changes.

PED = (% change in quantity demanded) ÷ (% change in price)

(We usually ignore the minus sign and read the size of the number.) The **determinants** 决定因素 (the things that decide PED) include whether the good has close substitutes, whether it is a need or a luxury, and what share of income it takes.

> **Worked example.** When the price of a good rises by 20%, the quantity demanded falls by 10%. Find the PED.

PED = (% change in quantity demanded) ÷ (% change in price) = 10 ÷ 20 = 0.5.

Because 0.5 is less than 1, demand is inelastic – the quantity changed by a smaller percentage than the price.

Exam questions often give the prices and quantities, not the percentages. Work out each percentage change first: % change = (new - old) ÷ old × 100.

> **Worked example.** A café cuts the price of a sandwich from £5.00 to £4.00, and its daily sales rise from 200 to 260. Calculate the PED and say what happens to the café's total revenue.

- % change in price = (4.00 - 5.00) ÷ 5.00 × 100 = -20%.
- % change in quantity demanded = (260 - 200) ÷ 200 × 100 = +30%.

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- PED = 30 ÷ 20 = 1.5 (or -1.5 with the sign), so demand is **elastic**.
- Total revenue goes from £5.00 × 200 = £1,000 to £4.00 × 260 = £1,040: it **rises**.

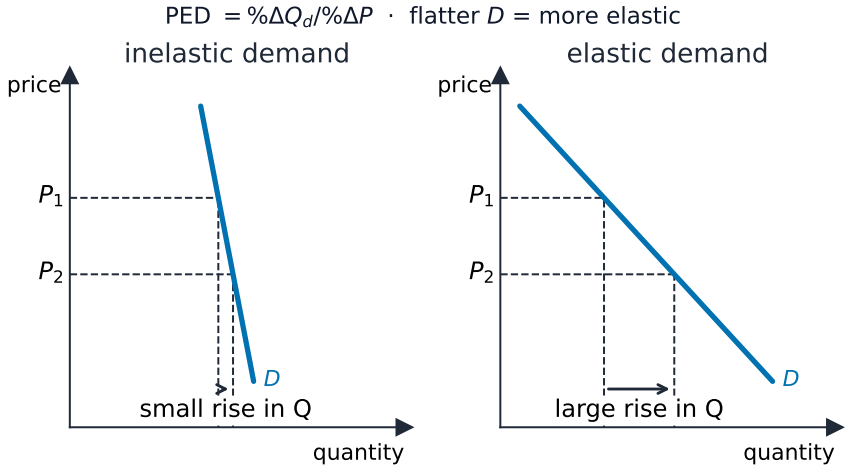
Always divide by the **old** value, and show the formula: most marks are for the method.

The determinants of PED, in more detail:

- **substitutes** – the more close substitutes a good has, the more elastic its demand (one brand of cola is elastic; all soft drinks together are less so);
- **necessity or luxury** – needs such as basic food and medicine are inelastic; luxuries are more elastic;
- **share of income** – a good that takes a tiny share of income (salt, matches) has inelastic demand;
- **time** – demand becomes more elastic over a longer time, as buyers find substitutes;
- **habit** – **addictive** 成瘾的 goods such as cigarettes have inelastic demand.

Reading the value

- PED greater than 1: demand is **elastic** 富有弹性. Quantity changes by a large %. (Goods with many substitutes, like one brand of crisps.)
- PED less than 1: demand is **inelastic** 缺乏弹性. Quantity changes by a small %. (Needs with few substitutes, like petrol or salt.)
- PED equal to 1: **unit elastic** 单位弹性. Quantity changes by the same % as price.



When demand is inelastic (steep) a price change barely changes quantity; when it is elastic (shallow) the same change moves quantity a lot.

PED and total revenue

Total revenue 总收益 is the money a firm gets from sales: price × quantity sold. (To the buyer, the same money is **total expenditure** 总支出.) PED tells a firm what happens to revenue if it changes its price:

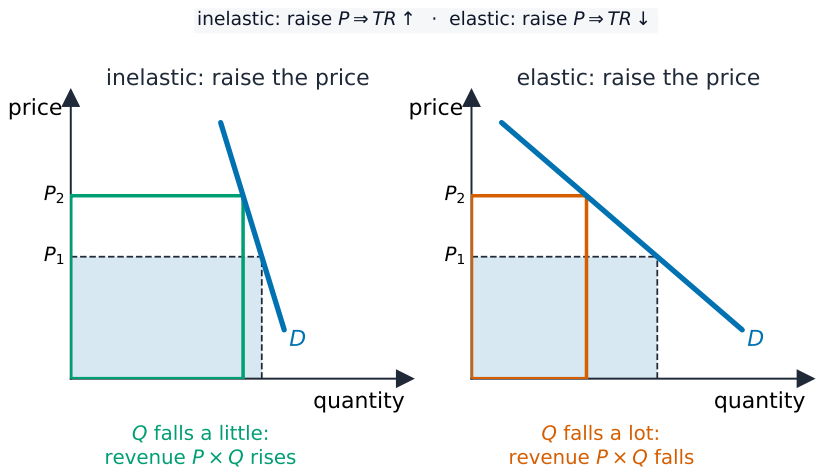
- If demand is inelastic, raising the price *raises* total revenue (quantity falls only a little).
- If demand is elastic, raising the price *lowers* total revenue (quantity falls a lot).

This is useful. A firm sets prices knowing how buyers will react. A government taxes inelastic goods (like cigarettes) because people keep buying them, so the tax raises a lot of money. But for the same reason, a tax on an inelastic good does **not** cut consumption by much: to reduce smoking, a tax needs to be large, or used with other policies such as bans and health campaigns.

> **Worked example.** A bus company sells 1,000 tickets a day at £2 each. It raises the price by 10% to £2.20, and daily sales fall by 5% to 950. Find the PED and what happens to total revenue.

- PED = 5 ÷ 10 = 0.5, so demand is inelastic (less than 1).
- old revenue = £2 × 1,000 = £2,000.
- new revenue = £2.20 × 950 = £2,090.

Total revenue rose by £90. Because demand is inelastic, the price rose by a bigger percentage than the quantity fell, so raising the price raised revenue.



The same price rise raises revenue when demand is inelastic, but lowers it when demand is elastic

Price elasticity of supply (PES)

Price elasticity of supply 供给价格弹性 measures how much the quantity supplied changes when the price changes.

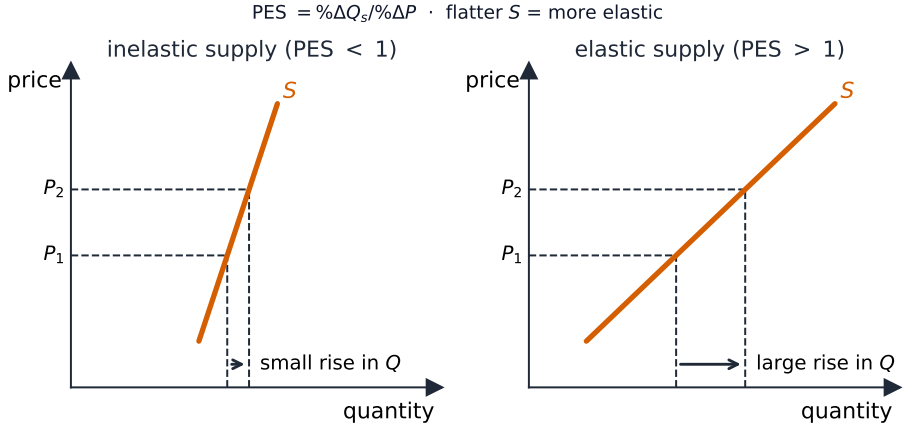
PES = (% change in quantity supplied) ÷ (% change in price)

Supply is elastic if PES is greater than 1, and inelastic if PES is less than 1.

> **Worked example.** When the price of a good rises by 10%, the quantity supplied rises by 30%. Find the PES.

PES = (% change in quantity supplied) ÷ (% change in price) = 30 ÷ 10 = 3.

Because 3 is greater than 1, supply is elastic.



The same price rise: a small quantity response when supply is inelastic, a large one when it is elastic

The determinants of PES are:

- **time** – supply is more elastic over a long time, because firms can change how much they make.
- **spare capacity** 闲置产能 – if a firm has unused machines and workers, it can raise output quickly, so supply is elastic.
- **stocks** 库存 – goods kept in store can be sold quickly, making supply elastic.
- ease of switching factors – if a firm can move factors of production to make this good easily, supply is more elastic.

Farm goods often have inelastic supply in the short run, because crops take a season to grow.

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The market economic system

In a **market economy** 市场经济, the price mechanism makes all the choices. There is no government planning. (The opposite is a **planned economy** 计划经济, where the government makes the choices.)

Advantages of the market system:

- Prices guide resources to where they are wanted, without anyone planning.
- Firms compete, so they cut costs and create new and better goods.
- Consumers have wide choice.

Disadvantages:

- Some useful goods are not made because they earn no profit.
- The strong (rich firms and people) do well; the weak may be left with nothing.
- Markets can fail (see below).

Market failure

Market failure 市场失灵 happens when the price mechanism leads to an **inefficient** 低效率 use of resources – resources are not shared out in the best way for society. The main causes:

■ External costs and benefits



Pollution from a power station is an external cost – it falls on third parties, not just the producer

When you produce or consume something, the cost or benefit to *you* is not always the cost or benefit to *everyone*.

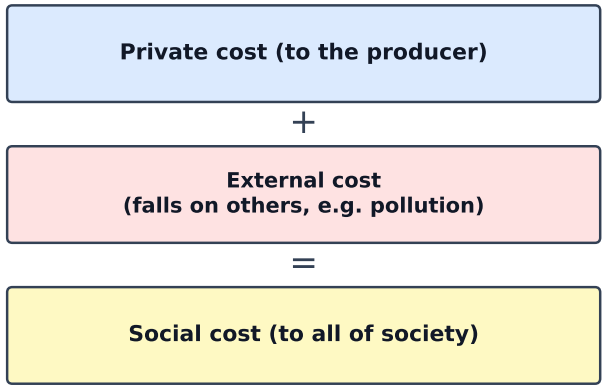
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- a **private cost** 私人成本 is the cost to the person doing the activity.
- an **external cost** 外部成本 is a cost paid by other people – for example, smoke from a factory harms nearby families.
- the **social cost** 社会成本 is the private cost plus the external cost (the cost to the whole of society).

In the same way:

- a **private benefit** 私人效益 is the benefit to the person doing the activity.
- an **external benefit** 外部效益 is a benefit that others get for free – for example, your neighbour's tidy garden is nice for you too.
- the **social benefit** 社会效益 is the private benefit plus the external benefit.

Markets fail because firms and consumers only think about their *private* costs and benefits, not the external ones.



MSC = MPC + external cost

An external cost (e.g. pollution) falls on third parties, so the social cost is greater than the producer's private cost

■ Merit, demerit and public goods

- **merit goods** 有益物品 are better for you than you realise, so the market makes too few (education, healthcare).
- **demerit goods** 有害物品 are worse for you than you realise, so the market makes too many (cigarettes, alcohol).
- **public goods** 公共物品 are things everyone can use and no one can be stopped from using, like street lights or national defence. The market makes none, because firms cannot charge for them.

Private good

rival + excludable
firms supply it for profit
(e.g. an apple, a phone)

Public good

non-rival + non-excludable
free-rider problem, so the
government must supply
(e.g. street lighting)

Exam: public goods fail the free-rider test — non-rival and non-excludable → government supply

A private good is rival and excludable (firms supply it); a public good is non-rival and non-excludable (the government must supply it)

Merit good

better for you than you
realise → under-consumed
(e.g. education, healthcare)

Demerit good

worse for you than you
realise → over-consumed
(e.g. cigarettes, alcohol)

Exam: merit → under-consumed (subsidise); demerit → over-consumed (tax / regulate)

Merit and demerit goods are mis-judged because of information failure

■ Abuse of monopoly power

A **monopoly** 垄断 is a single firm that controls a market. With no competition, it can charge high prices and make poor-quality goods. This is another market failure.

The mixed economic system

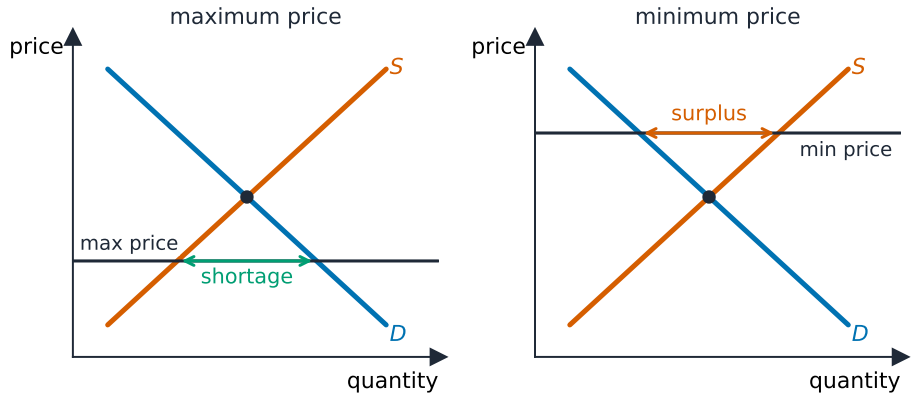
A **mixed economy** 混合经济 has both:

- a **private sector** 私营部门 – firms owned by people, guided by the price mechanism.
- a **public sector** 公共部门 – activity run by the government.

Most real economies are mixed; China's, for example, is a socialist market economy. The government steps in to correct market failure. This is government **intervention** 干预. The main methods:

Method	What it does
maximum price 最高价格	a price ceiling, set below equilibrium, to keep a good (like rent) cheap – but it causes a shortage
minimum price 最低价格	a price floor, set above equilibrium, to keep a price up (like a fair wage) – but it causes a surplus
indirect tax 间接税	a tax on a good (added to its price) to cut demand for demerit goods
subsidy	money paid to firms to cut the price and raise output of merit goods
regulation 监管	rules and laws, like banning smoking in public
direct provision 直接提供	the government makes and gives out goods itself, like state schools

Binding ceiling → shortage · binding floor → surplus



A maximum price set below equilibrium causes a shortage; a minimum price set above equilibrium causes a surplus.

This schedule shows a market for flats to rent:

Rent per month (£)	Quantity demanded	Quantity supplied
400	900	300
600	700	500
800	600	600
1,000	500	700

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Worked example. Using the schedule, identify the equilibrium rent, then explain the effect of a maximum rent of £600. The equilibrium is £800, where quantity demanded equals quantity supplied (600 flats). At a maximum rent of £600, set **below** equilibrium, 700 flats are demanded but only 500 are supplied: a **shortage** of 200 flats. Tenants who find a flat pay less, but 100 fewer flats are rented than before, landlords may not repair their flats, and an illegal **black market** 黑市 may grow, with flats let secretly at more than £600. A maximum rent above £800 would have **no** effect, because it is above the equilibrium.

Worked example (an indirect tax). Before a tax, a soft drink sells for £3.00. The government puts a tax of £1.00 on each bottle, and the price rises to £3.70. Explain who pays the tax, and why the price did not rise by the full £1.00. The tax raises firms' costs, so **supply shifts left** (upwards by £1.00). Consumers pay £0.70 of the tax through the higher price; producers pay the other £0.30, because they receive only £3.70 - £1.00 = £2.70, less than the £3.00 before. The price rises by less than the tax because some buyers stop buying when the price rises. The more **inelastic** the demand, the more of the tax the **consumer** pays, and the smaller the fall in the quantity sold.

A **subsidy** works the other way: it lowers firms' costs, so supply shifts right, the price falls and more is bought.

Judging intervention

Intervention can fix market failure, but it has costs. Taxes and rules cost money to collect and check. Governments can get things wrong too (this is called government failure). So you should always weigh the good effects against the bad ones before deciding.

Data-response practice

This practice question follows the style of Paper 2, which gives you a short source and asks questions that build from *Identify* to *Discuss*. Try each part first, then compare your answer with the model answer.

Source: Coffee prices jump after a drought

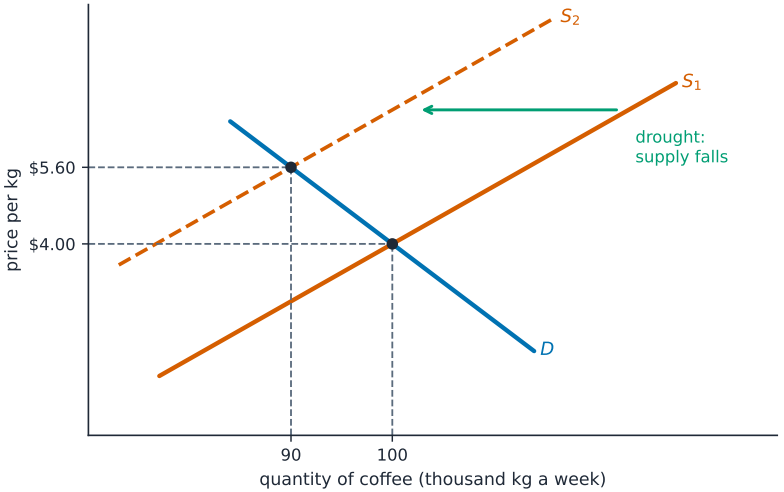
> A long drought in Tamaria, a large coffee-growing country, has damaged this year's harvest. In the capital city, the price of coffee beans rose from $4.00 to $5.60 per kg in three months. Shops sold 90 000 kg a week, down from 100 000 kg. Many people say they "cannot start the day without coffee", so most kept buying it. Some cafés have raised their prices, and a consumer group has asked the government to set a **maximum price** for coffee. Coffee farmers say a maximum price would make them poorer just when their crop is smallest.

(a) Identify one condition of supply mentioned in the source. [1] The weather (the drought).

(b) Calculate the price elasticity of demand (PED) for coffee. Show your working. [2] % change in price $= \frac{5.60 - 4.00}{4.00} \times 100 = +40\%$. % change in quantity demanded $= \frac{90\,000 - 100\,000}{100\,000} \times 100 = -10\%$. PED $= \frac{-10}{+40} = -0.25$. One mark for the working, one for the answer.

(c) Explain why coffee sellers' total revenue rose even though they sold less. [4] Demand is **price-inelastic** (PED is less than 1, ignoring the minus sign), because coffee is a habit with few close substitutes. So the price rose by a larger percentage (40 %) than quantity fell (10 %). Total revenue rose from $\$4.00 \times 100\,000 = \$400\,000$ to $\$5.60 \times 90\,000 = \$504\,000$ a week.

(d) Analyse, using a demand and supply diagram, how the drought affected the market for coffee. [6]



The drought shifts the supply of coffee left: the price rises from $4.00 to $5.60 and the quantity falls from 100 to 90 thousand kg a week.

The drought destroyed part of the crop, so at every price farmers could offer less coffee: supply shifts **left** from S_1 to S_2. At the old price of $4.00 there is now excess demand (a shortage). Buyers compete for the coffee, so the price rises. As the price rises, quantity demanded falls (a movement along D) until the new equilibrium at $5.60 and 90 000 kg. Because demand is inelastic, the price rises a lot and the quantity falls only a little. *Marks:* a correctly labelled diagram (axes, D, S_1, S_2, old and new price and quantity) and a clear chain of reasoning in words. A diagram with no explanation cannot earn full marks.

(e) Discuss whether the government should set a maximum price for coffee.

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[8] *Why it might:* a maximum price set below \$5.60 would make coffee cheaper for consumers, and poorer households would spend less of their income on it. It would also stop sellers making very large profits from a natural disaster. *Why it might not:* a maximum price below equilibrium causes a **shortage**: at the lower price people want more coffee, but farmers, who already have a small crop, offer even less. Shoppers might queue, and some coffee may be sold illegally above the maximum price (a black market). Farmers' revenue falls when their costs per kg are already high, so some may stop growing coffee, and next year's supply could be smaller still. *Conclusion:* a maximum price is probably **not** the best answer here, because coffee is not a necessity in the way bread or rent is, and the shortage would be large while supply is so low. If the government wants to help, a short-term subsidy to farmers to replant, or help for the poorest households, would treat the cause without creating a shortage. The answer could change if the drought lasted for years or if coffee were a main food. *Marks:* this question rewards two sides **and** a justified conclusion. A one-sided answer, or a conclusion that just repeats a point, loses the top marks. Say *why* one side is stronger and *what it depends on*.

Exam tips

- A change in a good's **own price** is a *movement along* the curve; a change in anything else (income, tastes, related prices) *shifts* the whole curve.
- **Equilibrium** is where demand meets supply. Below it there is excess demand (a shortage, so price rises); above it there is excess supply (a surplus, so price falls).
- PED = %ΔQ ÷ %ΔP. Demand is **inelastic** if PED $<$ 1 (raising price raises revenue) and **elastic** if PED $>$ 1 (raising price lowers revenue).
- **Market failure** (external costs, merit/demerit/public goods, monopoly) means resources are used badly; the government corrects it with taxes, subsidies, rules and direct provision.

Vocabulary card meanings

signalling: The way a change in price tells buyers and sellers what to do. good: A physical item that can be purchased. ceteris paribus: The assumption that every other factor stays unchanged. total expenditure: The whole amount spent, price times quantity. planned economy: An economy in which the state allocates resources. inefficient: Using more resources than necessary for the output gained. intervention: Action by government that changes what a market would have done.

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Microeconomic decision-makers

IGCSE Economics

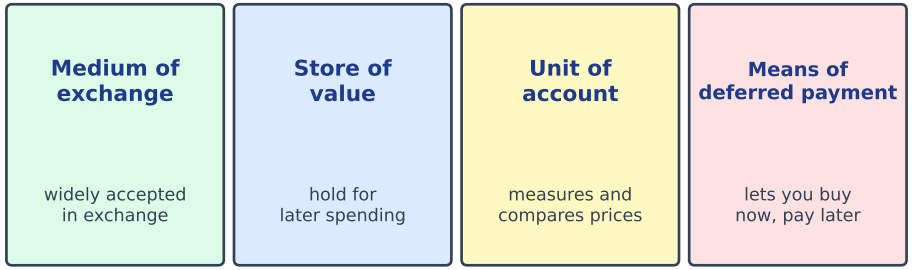
Money and banking

Long ago, people swapped goods directly. This is called **barter** 物物交换. Barter is hard: you must find someone who has what you want *and* wants what you have. **Money** 货币 solves this problem.

The functions of money

Money does four jobs:

- a **medium of exchange** 交换媒介 – you swap money for goods, so you do not need barter.
- a **store of value** 价值储藏 – you can hold money now and spend it later, although inflation may reduce what it can buy.
- a **unit of account** 记账单位 – money measures and compares the value of things (this is the price).
- a **means of deferred payment** 延期支付手段 – you can buy now and pay later.



Explain the relevant function; inflation can reduce purchasing power

Money's four functions: a medium of exchange, a store of value, a unit of account, and a means of deferred payment



Money – banknotes and coins – works as a medium of exchange, a store of value, a unit of account, and a means of deferred payment

The characteristics of money

Good money must be:

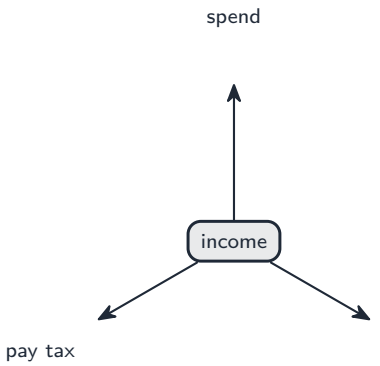
- **durable** 耐用的 – it lasts a long time.
- **portable** 便于携带的 – easy to carry.
- **divisible** 可分割的 – can be split into small amounts for small payments.
- limited in supply, hard to copy, and widely accepted for payment.

Banks

- A **central bank** 中央银行 is the government's bank. Its roles include issuing currency, serving government and banks, and managing monetary policy. Its policy decisions can influence **interest rates** 利率; it does not set every bank loan rate.
- **commercial banks** 商业银行 are the ordinary banks that people and **firms** 企业 use. They take deposits, lend money, and arrange payments. Deposits are not a promise that money keeps its purchasing power.

Households

A **household** 家庭 is a person or group living together and making money decisions. Each household must choose how much to spend, save, and borrow.



A household can spend, save or pay tax with its income

- **saving** 储蓄 is income that is not spent now.
- **borrowing** 借贷 is spending money you do not have yet, and paying it back later (usually with an extra charge).

Three main things change these choices:

- **income** 收入 – more income can allow more spending and saving; debts and household needs also matter.
- interest rates – a higher interest rate makes saving more rewarding and borrowing dearer. This tends to encourage saving and discourage borrowing, other things unchanged. A household with little spare income may still be unable to save.
- **confidence** 信心 – if people feel sure about their jobs and the future, they may spend and borrow more. Worry may encourage saving, if they can afford it.

Rich and poor households. A low-income household spends almost all of its income on necessities such as food, rent and transport, so it saves a **small share** (or borrows). A high-income household spends more in total, but a **smaller share** of its income, so it can save a larger share. Age matters too: young adults often borrow (for study, a home or a car), people in middle age save for retirement, and retired people spend their savings.

> **Worked example.** The central bank cuts the interest rate from 5% to 2%. Explain how this may affect a household's spending, saving and borrowing.

- **Saving** earns less interest, so there is less reward for saving; the household may save less and spend more now.
- **Borrowing** becomes cheaper, and existing loans with a variable rate cost less each month, which leaves more income to spend.

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- Cheaper loans make it easier to buy expensive items on credit, such as cars, furniture or a house.
- So spending is likely to **rise**. But if the household is worried about losing a job, it may keep saving anyway: confidence can matter more than the interest rate.

Workers

Choosing a job

When a worker chooses an **occupation** 职业 (a type of job), two kinds of factor matter:

- **wage factors** – the pay. The **wage** 工资 is the money you earn. Higher pay tends to attract workers, but conditions and access to training also matter.
- **non-wage factors** – everything else: working hours, holidays, how safe or pleasant the job is, whether you enjoy the work, distance from home, and the chance to move up to a higher job.

Weekly job facts	A	B
Weekly hours	40	40
Wage	£400	£440
Travel cost	£20	£60
Journey each way	10 minutes	60 minutes
Hours	daytime	night shifts
Training	offered	none

Decision case. Is B necessarily better? Use the facts above.

Worked decision. Wage after travel = weekly wage − weekly travel cost. A: £400 − £20 = £380. B: £440 − £60 = £380. A offers shorter travel and training. B may suit someone who prefers nights; the decision depends on preferences, not gross pay alone.

Why workers earn different amounts

Workers are not all paid the same. The reasons include:



Demand and limited supply together explain the pressure on pay.
Training alone does not guarantee a high wage.

More repair orders and slow growth of technician supply may raise wages

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- **skill** 技能 and **qualifications** 资格 – scarce skills can restrict labour supply. If firms also demand those skills, pay may be higher. Years of study alone do not guarantee high pay.
- danger – risky or dirty jobs may pay more to attract workers.
- **trade unions** 工会 – a trade union is a group of workers who join together to bargain for better pay and conditions. Strong unions can raise pay.
- **discrimination** 歧视 – unfair treatment because of gender, race, or age can cause unfair pay gaps.

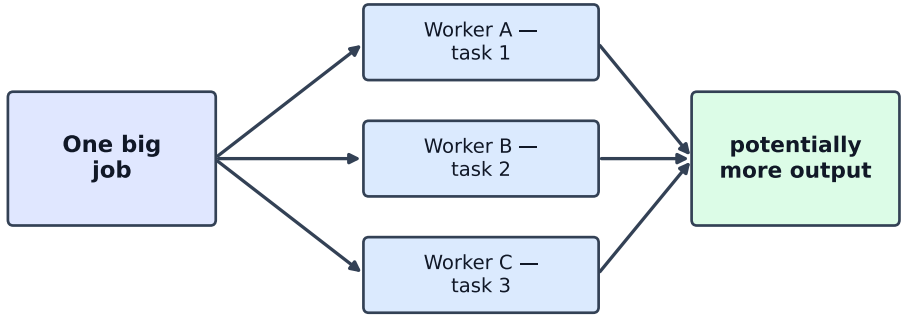
Wage case. A town has few qualified repair technicians and many applicants for assistant jobs. Repair orders rise, but technician training takes two years. More orders increase firms' demand for technicians; slow supply expansion may encourage higher pay. This explains a possible difference without claiming every qualified worker earns more.

Division of labour

Division of labour 劳动分工 (also called **specialisation** 专业化) means splitting a job into small tasks, with each worker doing one task again and again.

Advantages: workers get faster and better at their one task; less time is wasted moving between tasks; this can raise productivity and output. If costs do not rise proportionately, unit cost falls.

Disadvantages: doing one task is boring, so workers may make mistakes or leave; if one worker is absent, the whole line can stop; each worker learns only one skill.



Exam: specialisation can raise productivity — but monotony and interdependence are trade-offs

Division of labour: splitting a job into small repeated tasks can raise output per worker

Productivity case. The same three workers make 30 boxes in one hour before specialisation and 45 after. Other inputs are unchanged. Calculate productivity before and after.

Worked answer. Productivity = output ÷ (workers × hours). Before: 30 ÷ (3 ×

1) = 10 boxes per worker per hour. After: 45 ÷ (3 × 1) = 15 boxes per worker per hour. Repetition can save switching time. If total hourly cost is unchanged, cost per box falls. An absent packer could stop completion of boxes.

Firms

The size of firms

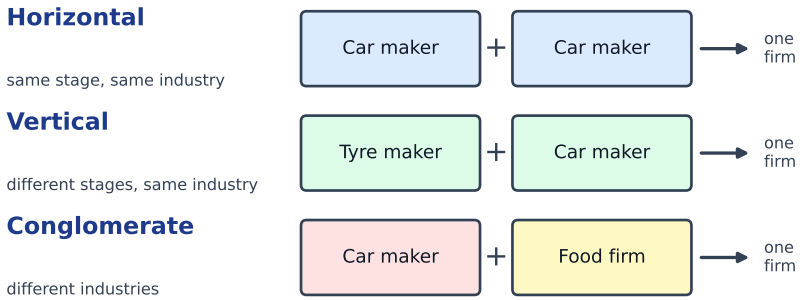
Firms come in many sizes, from one person to huge companies. We can measure size by the number of workers, the amount of **capital** 资本 used, or the output.

Some firms stay small because: the **market** 市场 is small; the product is personal (like a hairdresser); the owner wants to stay in control; or there is little money to grow.

How firms grow

Firms grow by selling more, or by joining with other firms. When two firms join, it is a **merger** 合并. In a takeover, one firm gains control of another. There are three types:

- **horizontal merger** 横向合并 – two firms at the *same* stage of the *same* industry join (two car makers).
- **vertical merger** 纵向合并 – two firms at *different* stages of the same industry join (a car maker and a tyre maker). "Backward" is towards the supplier; "forward" is towards the seller.
- **conglomerate merger** 混合合并 – two firms in *different* industries join (a car maker and a food company).



Exam: horizontal = same stage; vertical = supply chain; conglomerate = different industries

The three types of integration: horizontal (same stage), vertical (different stages of one industry), and conglomerate (different industries)

Classification case. A bakery joins another bakery, its flour mill, bread shops, or a clothing producer. Classify each and explain a possible benefit.

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Worked answer. Another bakery is horizontal integration: bulk buying may lower cost, but rivalry falls. The flour mill is backward vertical integration: greater supply control, but milling needs different skills. Bread shops are forward vertical integration: control of outlets, with retail management costs. Clothing is conglomerate integration: spreading risk, with no guarantee either business succeeds.

Business failure

Survival case. Monthly revenue is £4,000; costs are £4,500. Profit = TR − TC = £4,000 − £4,500 = −£500. Tomorrow a £2,000 bill is due, but cash available is £300 with no agreed loan. Payment shortfall = £2,000 − £300 = £1,700. A loss and a cash shortage are different threats to survival.

Firms can suffer **business failure** 企业倒闭 (closure) because of high costs, low sales, poor management, strong rivalry, insufficient cash or falling **demand** 需求.

Firms and production

Labour-intensive and capital-intensive

- **labour-intensive** 劳动密集型 production uses relatively more **labour** 劳动 than capital equipment – for example, hand-made crafts.
- **capital-intensive** 资本密集型 production uses relatively more capital equipment than labour – for example, a modern car factory.



Automated car production illustrates capital equipment and specialised stages; the photograph alone cannot measure productivity

Production choice. Method A makes 100 shirts daily with ten workers and simple tools. B makes the same quantity and quality with two operators and automated equipment. A uses relatively more labour; B uses relatively more capital. B may suit

stable large orders and scarce labour. A may suit custom orders or limited finance. Compare equipment costs, wages, training, availability and flexibility; counting workers alone does not decide profit.

Productivity

Productivity 生产率 means output per worker (or per machine) in a set time. Higher productivity means more output per worker in the same time. Unit cost falls only if total cost does not rise proportionately. Training, better machines and management can improve productivity.

Demand for and supply of factors

Firms buy **factors of production** 生产要素 (**land** 土地, labour, capital, and **enterprise** 企业家才能). Factor prices and quantities are influenced by demand, supply, bargaining and policy. Product demand, factor prices, availability and productivity affect what firms use. For example, if many firms want skilled workers, their wages may rise if supply cannot expand enough.

Factor choice. A shirt producer receives more orders. Trained workers are available, but new automated machines take six months to deliver and need costly installation. Hiring workers can expand output sooner; machinery may suit later, stable orders if its productivity justifies its cost. Higher wages alone do not make machinery available or worthwhile.

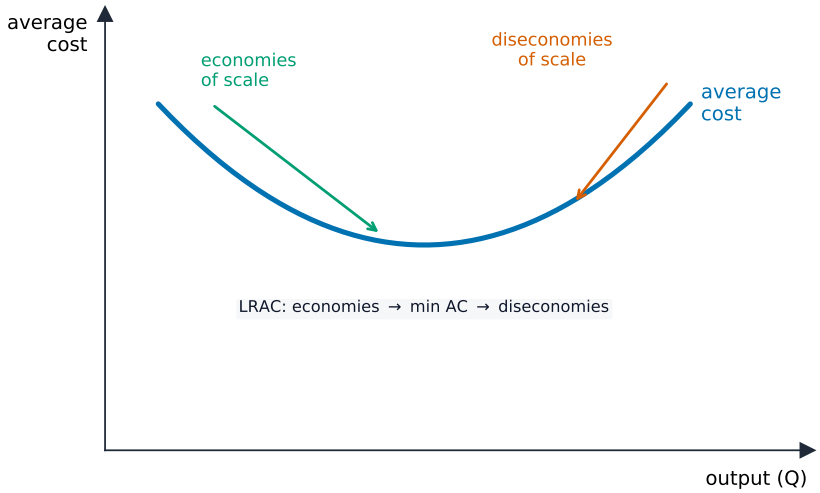
Economies and diseconomies of scale

As a firm grows and makes more, the cost of each unit can change:

- **economies of scale** 规模经济 – a larger scale of production lowers long-run average cost. Reasons: buying materials in bulk is cheaper, big machines work more efficiently, and large firms borrow money cheaply.
- **diseconomies of scale** 规模不经济 – a larger scale of production raises long-run average cost because coordination or other problems outweigh gains. Reasons: a huge firm is hard to manage, messages travel slowly, and workers may feel less important.

Scale calculation. Compare long-run alternatives with all inputs adjustable. A small plant makes 1,000 units monthly at total cost £8,000; a larger plant makes 2,000 at £14,000. Average cost = TC ÷ output. Small: £8,000 ÷ 1,000 = £8 per unit. Large: £14,000 ÷ 2,000 = £7 per unit. Total cost rises, but average cost falls: economies of scale. Bulk discounts or specialised equipment could explain it. This differs from spreading unchanged rent over more output in an existing plant.

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The long-run average cost curve: economies of scale as the firm grows, then diseconomies of scale.

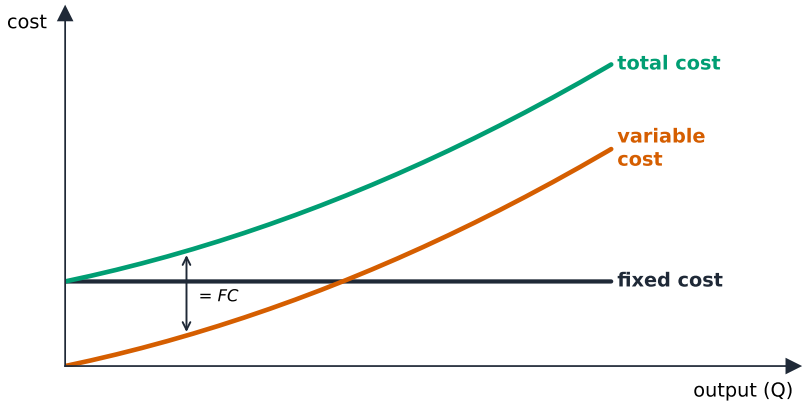
These can be *internal* (caused by the firm's own size) or *external* (caused by the whole industry growing).

Firms' costs, revenue and objectives

Costs

A **cost** 成本 is money a firm spends to produce. Costs split into:

- **fixed costs** 固定成本 – costs that do *not* change with output within a given period and range, such as rent and insurance. You pay them even if you make nothing.
- **variable costs** 可变成本 – costs that *change* with output, such as materials and production-related electricity. More output means more variable cost.
- **total cost** 总成本 – fixed cost plus variable cost.
- **average cost** 平均成本 – the cost of *each* unit: total cost divided by the number of units made.



$TC = FC + VC$ · gap between TC and VC is FC

Fixed cost stays the same as output rises; variable cost rises; total cost is fixed plus variable, so the gap between total and variable cost is the fixed cost.

Revenue

Revenue 收益 is the money a firm gets from selling its goods.

- **total revenue** 总收益 – the price multiplied by the quantity sold.
- **average revenue** 平均收益 – total revenue divided by the quantity sold (this is the same as the price).

Profit and other objectives

Profit 利润 is what is left after costs:

profit = total revenue − total cost

> **Worked example.** A firm has fixed costs of £2,000 and variable costs of £3 per unit. It makes 500 units and sells them at £10 each. Find its total cost, total revenue, profit and average cost.

- variable cost = 3 × 500 = £1,500, so total cost = 2,000 + 1,500 = £3,500.
- total revenue = 10 × 500 = £5,000.
- profit = 5,000 - 3,500 = £1,500.
- average cost = total cost ÷ units = 3,500 ÷ 500 = £7 per unit.

The firm makes a profit because the price (£10) is above the average cost (£7).

Most firms want as much profit as possible. But firms can have other **objectives** 目标:

- **survival** 生存 – a new firm first just wants to stay open.

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- **growth** 增长 – getting bigger, to gain economies of scale and market power.
- social objectives – some firms aim to help people or protect the environment, not only to earn profit.

Types of markets

Markets differ by how many firms there are and how hard it is for new firms to join.



Markets can have one supplier or many rival suppliers

Competitive markets

A competitive market has many firms selling similar goods, and it is easy for new firms to enter. This is strong **competition** 竞争. In such a market:

- buyers may switch suppliers, putting pressure on prices and quality.
- rivalry can encourage cost reduction and new products.

Consumers may gain lower prices, wider choice and better quality. These gains depend on information, switching costs and how strongly firms compete.



Alternative suppliers can create pressure to compete on price, quality and choice

Competition case. Shop A sells a loaf for £2; nearby B sells an equally fresh, equally sized loaf for £1.80. Customers know both prices and can switch easily. A may lose sales, encouraging a price cut, better quality or lower cost. This pressure is weaker if customers value differences or find switching difficult.

■ Monopoly

A **monopoly** 垄断 is a market with only *one* firm, or one firm that controls most of it. New firms find it hard to enter because of **barriers to entry** 进入壁垒 – for example, very high start-up costs, or the one firm controlling key supplies.

In a monopoly:

- limited alternatives can give the firm power to raise prices; demand and regulation still limit its decisions.
- there is little pressure to improve quality or cut costs.
- but a large monopoly may gain economies of scale, and may use its profit to pay for research.

■ Competition versus monopoly

	Consumers	Firms
competition	may improve price, choice and quality	pressure to compete and control cost
monopoly	less choice; price and quality depend on decisions	market power; possible scale gains and inefficiency

■ Exam connection: June 2025, 0455/22

Q2(a) asks for two possible merger advantages. Q3(c) asks how division of labour benefits firms. Develop a chain from specialisation to time saved, higher productivity and possible lower unit cost.

Q3(d) asks whether consumers benefit from one shampoo producer. The official scheme supports reasoning on both sides: scale gains may lower prices and profits may finance research; weaker rivalry may raise prices, reduce choice or allow inefficiency. Judge whether savings reach consumers and quality improves. Monopoly does not guarantee high profit or consumer harm.

Data-response practice

This question follows the style of Paper 2. Try each part before reading the model answer.

Source: Two bakeries join together

> Rosa's Bakery pays \$2 000 a week in rent and other fixed costs. Each loaf costs \$1.00 in flour, energy and wages. It sells loaves for \$2.50 each.

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Loaves per week	Total cost (\$)	Average total cost (\$)
1 000	3 000	3.00
2 000	4 000	?
4 000	6 000	1.50

> Rosa's has now agreed to merge with Bianco Bread, the other large bakery in the town. Together they will make about 80 % of the town's bread. The new firm says it will buy flour in bulk and close one of its two shops.

(a) Identify the type of integration in the source. [1] **Horizontal** integration: both firms are at the same stage of production in the same industry.

(b) Calculate the missing average total cost, and Rosa's profit at 2 000 loaves a week. [3] Average total cost $= \frac{\$4\,000}{2\,000} = \$2.00$. Total revenue $= 2\,000 \times \$2.50 = \$5\,000$, so profit $= \$5\,000 - \$4\,000 = \$1\,000$ a week.

(c) Explain why average total cost falls as output rises. [4] The \$2 000 of fixed costs does not change with output, so it is spread over more loaves: \$2.00 a loaf at 1 000 loaves but only \$0.50 a loaf at 4 000. The cost of each extra loaf stays at \$1.00, so average total cost falls from \$3.00 towards \$1.00.

(d) Analyse how the merger could lower the new firm's costs. [6] The larger firm gains **economies of scale**. Buying flour in bulk earns a lower price per kg (**purchasing** economies). Closing one shop cuts rent and other fixed costs that were paid twice. One manager can run both bakeries (**managerial** economies), and the firm may borrow more cheaply because it is bigger (**financial** economies). Lower average costs raise the profit on each loaf.

(e) Discuss whether the town's consumers will benefit from the merger. [8] *Benefits:* if the firm passes on its lower costs, bread could become cheaper. A larger, more profitable firm can afford new ovens and new products. *Costs:* with 80 % of the market, the new firm faces little **competition**. It may keep its lower costs as profit and raise prices instead. Consumers lose choice now that one shop has closed, and with less pressure from rivals the firm may let quality slip. If the firm becomes too large, **diseconomies of scale** (slow decisions, poor communication) could raise its costs again. *Conclusion:* consumers will probably **not** benefit unless something keeps prices low. With 80 % of the market the firm is close to a **monopoly**, so the gains from economies of scale may go to the owners, not to buyers. The outcome depends on whether new bakeries can enter the town easily and whether the government watches the merger.

Exam tips

- For calculations, name the equation, substitute values and give units. Distinguish totals from per-unit figures.

- For explanations, develop a causal chain. For discussions, weigh possible outcomes and judge the conditions that change them.

Vocabulary card meanings

means of deferred payment: A function of money that lets debts be settled later. occupation: The kind of paid work a person does. skill: An ability a worker has built through practice. division of labour: Splitting work so each person specialises in one task. business failure: A firm closing because it cannot continue to trade.

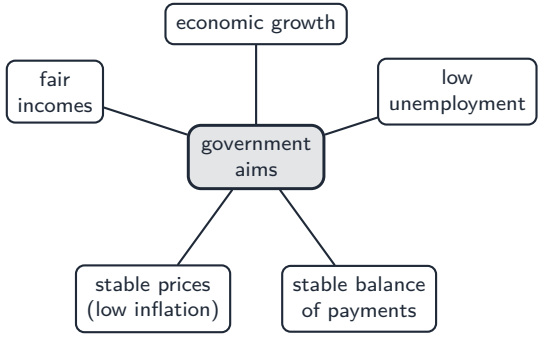
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Government and the macroeconomy

IGCSE Economics

Government macroeconomic aims

Governments try to manage the whole economy – the **macroeconomy** 宏观经济. They have five main aims:



Five main aims: growth, low unemployment, stable prices, balance of payments stability, fair incomes

1. **economic growth** 经济增长 – the economy makes more goods and services each year.
2. **full employment** 充分就业 – almost everyone who wants a job has one, so **unemployment** 失业 is low.
3. **price stability** 价格稳定 – prices rise only slowly, so **inflation** 通货膨胀 is low.
4. **balance of payments** 国际收支 stability – avoiding persistent external imbalances, including large current-account deficits. It does not mean exports must always equal imports.
5. **redistribution of income** 收入再分配 – sharing income more fairly, so the gap between rich and poor is not too wide.

These aims can **conflict** 冲突 (work against each other). For example, fast growth can pull prices up, causing inflation. Cutting unemployment can do the same. So a government must balance its aims.



Exam: fiscal = G & T; monetary = interest rate / money; supply-side = capacity & productivity

The government's three sets of policy tools for managing the macroeconomy

Fiscal policy

Fiscal policy 财政政策 means the government changing two things to manage the economy:

- **government spending** 政府支出 – money the government spends, for example on schools, hospitals, and roads.
- **taxation** 税收 – money the government takes from people and firms.

The government **budget** 预算 sets spending against tax. There are three outcomes:

- a **budget deficit** 预算赤字 – spending is more than the tax raised, so the deficit needs financing, often through borrowing.
- a **budget surplus** 预算盈余 – the tax raised is more than spending.
- a balanced budget – the two are equal.

Official worked budget: June 2025, 0455/22 Q1(a). Government spending was \$310 million and tax revenue \$292 million. Budget deficit = spending − tax revenue = \$310 million − \$292 million = \$18 million. This is a one-period shortfall, not accumulated government debt. The signed balance (revenue minus spending) is −18 million in the stated currency. A positive balance is a surplus. Weak incomes can lower receipts and widen a deficit even with unchanged tax rates and planned spending; the balance alone does not prove a new policy decision.

Types of tax

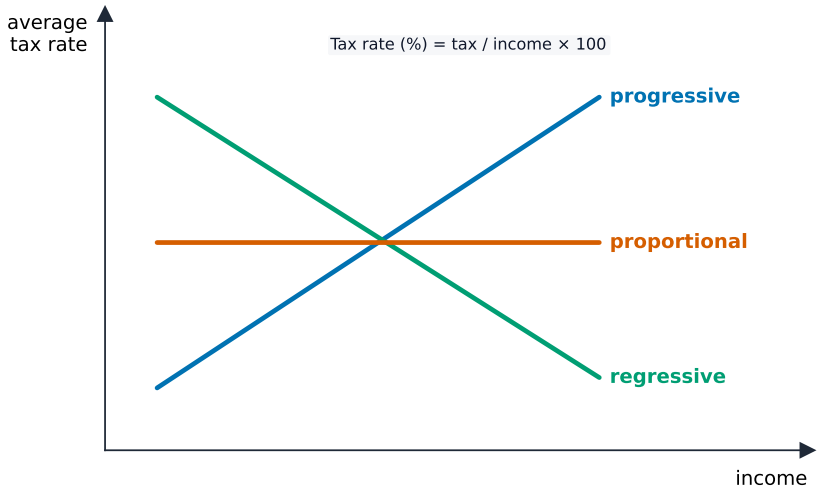
Taxes are grouped in two ways. By *what* is taxed:

- a **direct tax** 直接税 is based on **income** 收入 or **profit** 利润 (income tax, corporation tax).
- an **indirect tax** 间接税 is imposed on spending on goods and services (a sales tax). The share passed to consumers through prices depends on demand and competition; firms may absorb part in lower profit.

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By *how the rate changes with income*:

- a **progressive tax** 累进税 takes a *bigger* % from higher incomes. This helps redistribute income.
- a **regressive tax** 累退税 takes a *smaller* % from higher incomes, so it hits the poor harder.
- a **proportional tax** 比例税 takes the *same* % from everyone.



Under a progressive tax the average rate rises with income; under a regressive tax it falls; under a proportional tax it stays the same.

Tax calculation. A earns £10,000 and pays £1,000; B earns £30,000 and pays £6,000. Average tax rate = tax paid ÷ income × 100. A: £1,000 ÷ £10,000 × 100 = 10%. B: £6,000 ÷ £30,000 × 100 = 20%. The average rate rises with income, so this is progressive. Direct/indirect is a separate classification. A fixed spending-tax payment can take a larger income share from a poorer household; indirect does not mean regressive by definition.

Taxes can fund services, redistribute income, influence total demand, discourage harmful products, reduce imports or encourage less pollution. Higher rates do not guarantee proportionally higher revenue: spending, output, the tax base and avoidance may change. Spending also has an opportunity cost and borrowing can create future interest costs.

What fiscal policy does

To support a weak economy, the government can deliberately spend more or cut taxes, other measures unchanged. Extra purchases create orders; households may spend some extra income after tax. Total **demand** 需求 may rise, supporting output and jobs if there is spare capacity. Saving, imports, skills/material shortages and delivery delays can weaken the response; near capacity, prices may rise instead.

To ease excess-demand inflation, government can cut spending or raise taxes. Demand may fall, but output, employment or important services can suffer. An indirect-tax rise may initially raise consumer prices if passed on. A road project creates demand during construction; transport and productivity benefits arrive later when it is usable.

Exam reasoning: June 2025, 0455/22 Q4(c). Higher personal income tax can reduce disposable income, then consumer spending, firms' orders and demand for workers. Cyclical unemployment may rise. This chain assumes spending falls and is not offset elsewhere; government use of extra tax revenue also matters.

Monetary policy

Monetary policy 货币政策 is the **central bank** 中央银行 changing **interest rates** 利率 (and the **money supply** 货币供给) to manage the economy. The interest rate is the cost of borrowing and the reward for saving.

- **Lower** interest rates: borrowing is cheaper, which may encourage people and firms to spend and **invest** 投资 more. Demand rises, potentially increasing output and jobs if there is spare capacity; inflationary pressure may rise.
- **Higher** interest rates: if lenders pass them on, borrowing becomes dearer and saving may be more attractive. Spending may fall, easing demand-pull inflation but potentially reducing output and jobs. A fixed-rate loan need not adjust immediately; savers may receive more income.

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Central banks use monetary-policy instruments to influence demand, inflation and growth; they do not set every loan rate

A policy or base rate influences bank rates; contracts determine pass-through. Compare a full year at each rate on an unchanged £20,000 balance, ignoring fees, compounding and principal repayments: 6% costs £1,200 interest; 4% costs £800. A loan fixed at 6% still costs £1,200. Weak orders or tight credit may limit investment.

Money supply is the stock of money available in the economy, including cash and bank deposits. More money or easier credit can support spending if funds are lent and used, but may instead be saved or repay debts. Spare capacity can allow more output; a money-supply rise does not make every price rise immediately by the same percentage. Government spending and tax changes are fiscal policy.

The **exchange rate** 汇率 is one currency's price in another. Higher domestic interest rates may attract funds and appreciate the currency, other things equal, lowering domestic import prices but making exports dearer to foreign buyers. Expectations, risk and foreign rates also matter: the central bank does not automatically fix a floating exchange rate. A weaker currency has the opposite initial price effects, while trade volumes depend on demand and supply.

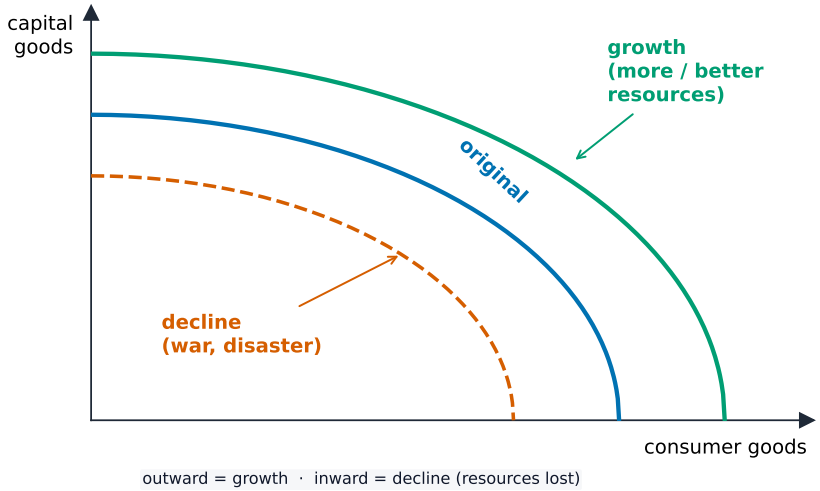
Monetary measures affect several aims, including price stability, growth and employment; mandates vary between countries. Spending decisions and fixed contracts create delays. Higher rates may help excess-demand inflation but cannot directly repair a fuel shortage, and may worsen unemployment when demand is already weak.

Supply-side policy

Supply-side policy 供给侧政策 tries to raise the amount the economy *can* produce. It improves the quantity and quality of the **factors of production** 生产要素. Methods include:

- **education and training** – relevant skills can raise **productivity** 生产率 when firms can use them.
- **privatisation** 私有化 – selling state-owned firms to private owners, who may run them better.
- **deregulation** 放松管制 – removing rules that hold firms back.
- **incentives** 激励 – lower taxes on income and profit may improve incentives to work and invest; the response varies.

Supply-side policy can raise growth and jobs *and* lower inflation at the same time. It can take time, costs money and depends on the cause of the constraint; outcomes are not guaranteed.



Supply-side policy aims to push the whole curve outwards.

Policy comparison. Cutting income tax during weak spending is fiscal policy: more income may be spent, but households may save it. Lowering a policy interest rate is monetary policy: borrowing may be cheaper, but firms with few orders may not invest. Training mechanics for new jobs is supply-side policy: relevant skills may improve employability and capacity, but suitable vacancies must exist. Private ownership alone does not guarantee competition, and education is not the only policy that can improve capacity.

Economic growth

Economic growth is a rise in **real GDP**.

GDP (**gross domestic product** 国内生产总值) measures the value of final goods and services produced within a country over a period, usually a year. Counting final output avoids counting inputs again. **Real** 实际 GDP is GDP after the effect of rising prices is removed, so it shows the *true* change in output.

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> **Worked example.** A country's real GDP was £500 billion last year and £515 billion this year. Find the rate of economic growth.

- economic growth = (515 - 500) ÷ 500 × 100 = 3%.

Because this uses *real* GDP (with the effect of rising prices taken out), the 3% is a true rise in output, not just higher prices. If prices had risen but output had not, real GDP would be unchanged and its growth rate would be zero; the level of GDP would not be zero.

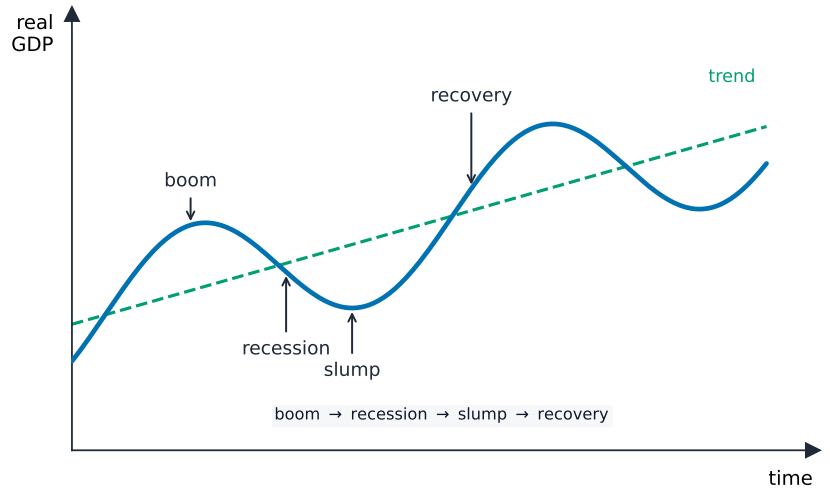


Investment can expand capacity; the skyline alone cannot establish a growth rate

The business cycle

Real GDP does not rise smoothly. It moves through a **business cycle** 经济周期 with four stages:

- **boom** 繁荣 – fast growth; output and jobs are high; pressure on prices may increase if capacity is stretched.
- **recession** 衰退 – output falls and jobs are lost. (A recession is often defined as falling real GDP for six months.)
- **slump** 萧条 – the bottom of the cycle; very low output and high unemployment.
- **recovery** 复苏 – output starts to rise again.



Real GDP moves through boom, recession, slump and recovery around its rising trend.

Causes and effects

Growth comes from more or better factors of production: investment in new machines, a bigger or more skilled workforce, and new technology.

Good effects: higher incomes, more jobs, better **living standards** 生活水平, and more tax for the government to spend.

Bad effects: prices may rise (inflation); the gap between rich and poor may grow; and there may be more pollution and use of scarce resources.

A recession can reduce incomes and employment and increase business failures; the effects differ between groups.

Employment and unemployment

Measuring unemployment

Unemployment is people who can work and want to work, but cannot find a job. There are two ways to measure it:

- the **claimant count** 失业救济申领人数 – it counts people who claim **unemployment benefit** 失业救济金. It misses those who want work but cannot claim.
- the **labour force survey** 劳动力调查 – a survey that counts people who are not working but are looking for work and are ready to start.

The **labour force** 劳动力 is everyone who is working plus everyone who is unemployed, seeking work and available to start. Full employment means those willing and able to work can find jobs at the going wage; it does not mean every resident must have a job

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or eliminate every short job-search gap.

> **Worked example.** A country has 24 million people in work and 2 million people who are unemployed and looking for work. Find the labour force and the unemployment rate.

- labour force = 24 + 2 = 26 million.
- unemployment rate = 2 ÷ 26 × 100 = 7.7%.

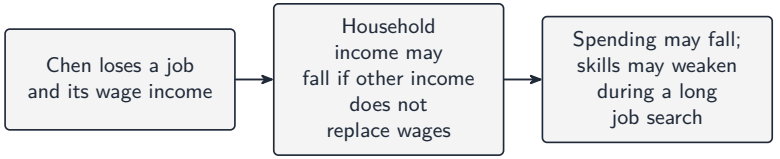
People with neither a job nor active job search are usually outside the labour force. A student with a paid job is employed; a student who is jobless, searching and available may be unemployed. A falling rate alone does not show that new jobs were created.

Survey check. Dana is jobless, actively seeking work and available: unemployed. Eli studies full time and neither works nor seeks work: outside the labour force. Farah studies full time and has a paid part-time job: employed. Classify by activity, not the label "student".

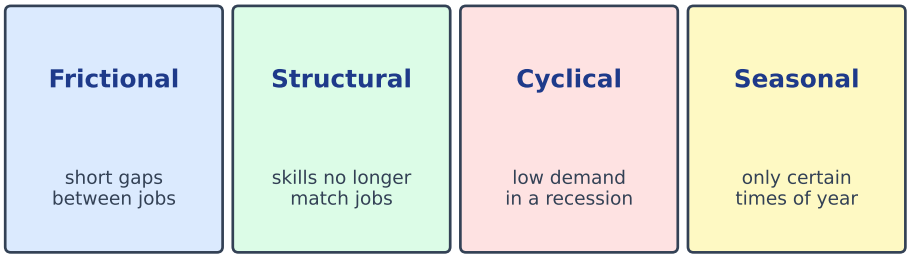
Rate comparison. From the initial 24 million employed and 2 million unemployed, 0.5 million unemployed people stop seeking work. Employment stays 24 million. New labour force = 24 + 1.5 = 25.5 million. New unemployment rate = 1.5 ÷ 25.5 × 100 = 5.9% (rounded). No new jobs were created, despite the fall from 7.7%. Claimant counts record benefit claims; surveys can include unemployed non-claimants.

Types of unemployment

- **frictional unemployment** 摩擦性失业 – short-term unemployment between jobs (a worker who just left one job and is looking for the next).
- **structural unemployment** 结构性失业 – a whole industry shrinks and workers' skills are no longer wanted (for example, coal miners after the mines close).
- **cyclical unemployment** 周期性失业 – caused by a recession, when total demand is low so firms need fewer workers. (It is also called demand-deficient unemployment.)



Job loss can affect household income, spending, public finances and potential output; replacement income can change the result.



The four types of unemployment: frictional (between jobs), structural (skills no longer match), cyclical (low demand in a recession) and seasonal

Workers can also lose jobs at particular times of year, for example when a holiday season ends. This seasonal case differs from a general recession; year-round work or skills usable in other seasons may help.

Worker cases. Asha left a job and is searching for another: frictional unemployment; better vacancy information may shorten the search. Ben's factory closed and vacancies need skills he lacks: structural unemployment; relevant retraining may help. Chen lost work because falling spending reduced orders across the economy: cyclical unemployment; demand support may help if spare capacity exists. Choose a policy from the cause; extra spending alone does not give Ben missing skills.

Effects of unemployment

- workers lose income and may lose their skills.
- the country loses the output those workers could have made.
- the government pays more in benefits and collects less in tax.
- crime and poor health may rise.

Sectors and the changing pattern of employment

The economy has three **sectors**:

- the **primary sector** 第一产业 extracts raw materials (farming, fishing, mining);
- the **secondary sector** 第二产业 makes things (manufacturing, construction);
- the **tertiary sector** 第三产业 provides services (banking, tourism, retail, transport).

A common development pattern is a shift in employment shares **primary → secondary → tertiary**; it is not inevitable in every economy. Early on most work is farming; industrialisation moves workers into factories; then **deindustrialisation** 去工业化 and rising incomes grow the service sector, so most jobs end up tertiary. Modern economies also see more **part-time and flexible** work.

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Museum visitors illustrate demand for tourism services, not unemployment. This is not a photograph of jobseekers.

Sector check. Growing vegetables is primary activity; canning them is secondary; serving them in a museum café is tertiary. Classify the activity, not simply the business name.

Inflation

Inflation is a sustained rise in the *general* level of prices over time. A fall in one product's price does not establish that the general level is falling. The opposite – falling prices – is **deflation** 通货紧缩.

Measuring inflation

Inflation is measured by the **Consumer Prices Index** 消费者价格指数 (CPI). We pick a "basket" of goods and services a typical household buys, give each good a **weight** 权重 (a bigger weight for things people spend more on), and track how the price of the whole basket changes each year.

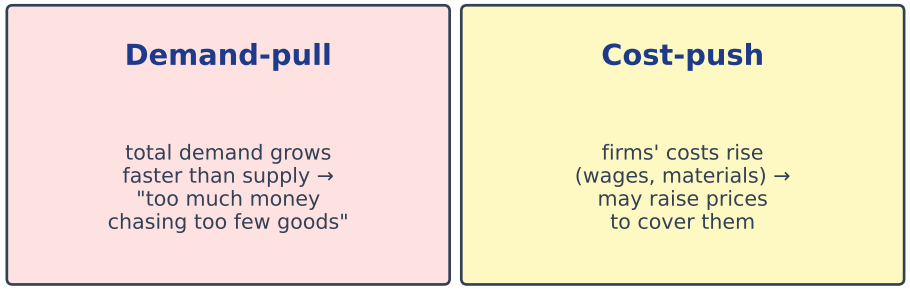
> **Worked example.** A country's Consumer Prices Index (CPI) was 100 last year and 104 this year. Find the rate of inflation.

- inflation rate = (104 - 100) ÷ 100 × 100 = 4%.

Prices rose by 4% on average. If next year the index reaches 107, the inflation rate is (107 - 104) ÷ 104 × 100 = 2.9%. Prices are still rising, but more slowly – a smaller inflation rate is *not* the same as deflation, because for deflation the index itself would have to fall.

Causes

- **demand-pull** 需求拉动 inflation – total demand grows faster than the economy can supply, so prices are pulled up.
- **cost-push** 成本推动 inflation – firms' costs rise (wages, materials), so they may raise prices to cover them.



Exam: demand-pull = excess total demand; cost-push = rising costs (wages, oil, imported inputs)

The two causes of inflation: demand-pull (excess demand) and cost-push (rising costs)

Effects of inflation

- money loses **purchasing power** 购买力 – each unit of money buys less.
- unchanged money savings lose purchasing power; interest received also matters. If a balance grows faster than the relevant basket cost, buying power can rise.
- workers with unchanged money wages or pensions may buy less; pay rising faster than their living costs can instead improve purchasing power.
- unexpectedly higher inflation reduces the real value of a fixed money repayment, affecting lenders and borrowers differently. A borrower is not guaranteed to gain if income does not rise, living costs rise, or variable interest costs increase.
- firms must keep changing prices on labels and lists, which costs time and money.
- if domestic prices rise faster than competitors' and the exchange rate does not offset this, exports may become less competitive.

Deflation

Weaker demand or lower costs can cause deflation; expected falls may delay purchases.

Exam discussion: June 2025, 0455/22 Q1(h). Original A: confidence and spending fall, lowering output and jobs. Fixed debts become harder to repay if income falls. Original B: better technology lowers costs while output rises, potentially improving purchasing power. Judge the cause, affected groups and whether savings reach customers.

Higher interest rates or lower government demand can ease demand-pull pressure, but may reduce output and jobs and work with a delay. Training, infrastructure or productivity measures may reduce unit costs, but take time and resources. Reducing demand does not directly repair an imported fuel shortage; identify the cause and trade-offs before recommending a policy.

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Data-response practice

Try each part before reading the model answer.

Source: Slowdown in Country P

Country P's economy has slowed for two years. Many factories have cut shifts, and shops report fewer customers. To help, the central bank cut its interest rate from 4.5 % to 2.0 %. The government also plans to spend more on new roads and railways. Some economists warn that many of the unemployed used to work in coal mines that have closed, and that these jobs will not return.

Year	Real GDP growth (%)	Inflation (%)	Unemployment rate (%)
2023	3.1	2.4	4.8
2024	0.6	1.8	6.2
2025	−1.2	1.1	7.9

(a) Identify the year in which Country P was in a recession. [**1**] 2025: real GDP fell (growth was negative).

(b) By how many percentage points did the unemployment rate rise between 2023 and 2025? [**2**] $7.9 - 4.8 = 3.1$ **percentage points** 百分点. Do not write "3.1 %": that would be a percentage change, which here is $\frac{3.1}{4.8} \times 100 \approx 65\%$.

(c) Explain why unemployment rose as economic growth slowed. [**4**] When households and firms spend less, firms sell less, so they produce less. Firms then need fewer workers, so they cut shifts and stop hiring. This is **cyclical** unemployment. The data agree: growth fell from 3.1 % to −1.2 % while unemployment rose from 4.8 % to 7.9 %.

(d) Analyse how the cut in the interest rate might reduce unemployment. [**6**] A lower interest rate makes borrowing cheaper. Households borrow more to buy cars and houses, and they pay less on existing loans, so they have more to spend. Firms borrow more to invest in machines and buildings. Saving also earns less, so people save less and spend more. Total spending rises, firms sell more and produce more, and they need more workers, so unemployment falls. *Marks:* each step of the chain must link to the next. "Lower interest rates reduce unemployment" with no chain earns little.

(e) Discuss whether more government spending on roads and railways is the best way to reduce unemployment in Country P. [**8**] *Why it might be:* building roads creates jobs at once for construction workers, and their wages are spent in shops, creating more jobs. Better transport also lowers firms' costs, so it can raise the economy's productive capacity in the long run (a supply-side benefit). *Why it might not be:* projects take years to plan, so the jobs may come after the recession is over. The government may have to borrow, which adds to the national debt, or raise taxes later. Most importantly, the source says many of the unemployed are former **coal miners**: this is **structural** unemployment. New roads will not give them the

skills for other jobs, and the construction jobs may go to other workers. *Conclusion:* road building can help with the **cyclical** part of the rise, but it is not the best answer on its own. Because much of the unemployment is structural, **retraining** schemes for former miners (a supply-side policy) are also needed. The best mix depends on how much of the 3.1-point rise is cyclical and how much is structural.

Exam tips

Name the equation, use the correct denominator and give units. Explain causal chains; judge causes, constraints and affected groups.

Vocabulary card meanings

macroeconomy: The economy considered as one whole. redistribution of income: Using tax and payments to shift income between groups. regressive tax: A tax that takes a larger fraction of a small income than of a large one. proportional tax: A tax that takes the same fraction of every income. invest: To commit money to assets expected to earn more later. Real: A figure with the effect of rising prices removed. unemployment benefit: State money paid to people who are out of work. deindustrialisation: A shrinking share of factory jobs in the economy. Consumer Prices Index: An index tracking the cost of a typical household basket. purchasing power: The quantity of goods a sum of money can buy.

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Economic development

IGCSE Economics

Living standards

"Living standards" means how well people live – their income, health, education, and quality of life.

■ Indicators of living standards

An **indicator** 指标 is a number we use to measure something. Two indicators of **living standards** 生活水平 are common.

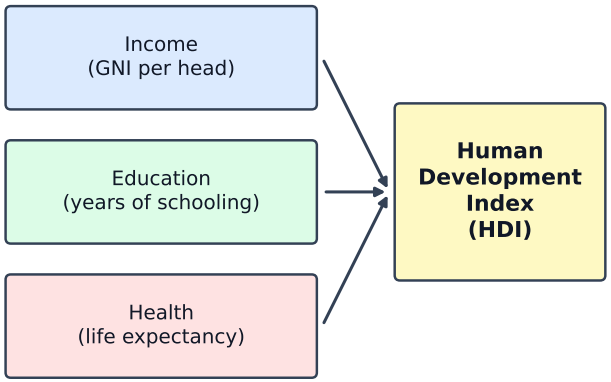
Real GDP per head is the main one. **GDP** (**gross domestic product** 国内生产总值) is the total value of goods and services a country makes in a year. **Real** 实际 means after rising prices are taken out. **Per head** 人均 means divided by the number of people. So real GDP per head shows the average output – and roughly the average **income** 收入 – of each person. Higher real GDP per head usually means higher living standards.

> **Worked example.** A country produces real GDP of £600 billion and has a population of 50 million people. Find its real GDP per head.

- real GDP per head = 600 billion ÷ 50 million = £12,000 per person.

This is only an *average*. It does not show how the income is shared: the same £12,000 average could hide most people being much poorer while a few are very rich. That is why HDI, below, adds health and education.

The **Human Development Index** 人类发展指数 (HDI) is a wider measure. It combines three things: income per head, education (years of schooling), and health (measured by **life expectancy** 预期寿命 – how long people are expected to live). HDI gives a fuller picture than GDP alone.



Exam: HDI is broader than GDP alone

The HDI combines income (GNI per head), education (years of schooling) and health (life expectancy) into one number between 0 and 1

Comparing income distribution

Income distribution can be compared by the **share of total income** that the richest and poorest groups receive. For example, if the richest 10% of people receive 40% of income in Country P but 22% in Country Q, income is shared **more unequally** in Country P. Two countries with the same GDP per head can have very different living standards for most people.

Within a country, living standards also differ between **regions** (for example, cities and the countryside) and between groups of people, so a national average can hide poor areas.

Limits of the comparison

Comparing living standards is not simple:

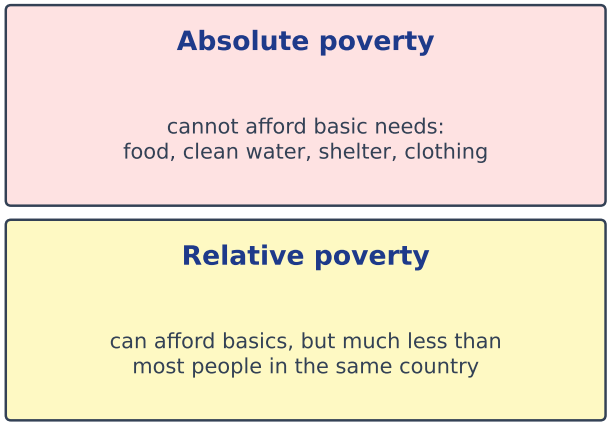
- GDP per head is an *average*. It hides the **income distribution** 收入分配 – a country can have a high average but a few rich people and many poor people.
- it leaves out unpaid work, and work in the hidden economy.
- it does not measure pollution, free time, or safety.
- prices and money differ between countries, so the same income buys different amounts.

This is why HDI, which adds health and education, is often a better guide.

Poverty

Poverty 贫困 is when people cannot afford a basic standard of living. There are two types:

- **absolute poverty** 绝对贫困 – people cannot afford even the basics: enough food, clean water, shelter, and clothing.
- **relative poverty** 相对贫困 – people are poor *compared with others* in the same country. They can afford the basics but much less than most people around them.



Exam: absolute = basic needs unmet; relative = far below typical

Two types of poverty: absolute (cannot afford basic needs) and relative (poor compared with others in the same country)

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Absolute poverty: in informal settlements many people lack basic needs such as safe housing, clean water and sanitation

Causes of poverty

- low income, low **wages** 工资, or no job (unemployment).
- poor education and poor health, which make it hard to get good work.
- old age, or having many children to support.

Policies to reduce poverty

- **economic growth** 经济增长 – a growing economy creates jobs and income.
- **redistribute** 再分配 income – use progressive taxes on the rich to pay for help for the poor.
- a **minimum wage** 最低工资 – a legal lowest wage, so low-paid workers earn more.
- state **benefits** 福利 – money paid by the government to the poor, old, or unemployed.
- better state education and healthcare, so the poor can improve their lives.

Population

A country's **population** 人口 is the number of people living in it. Three things change its size.

- the **birth rate** 出生率 – the number of births each year for every 1000 people.
- the **death rate** 死亡率 – the number of deaths each year for every 1000 people.
- **migration** 移民 – people moving between countries. **immigration** 迁入 is people moving *in*; **emigration** 迁出 is people moving *out*. **Net migration** 净移民 is immigration minus emigration.

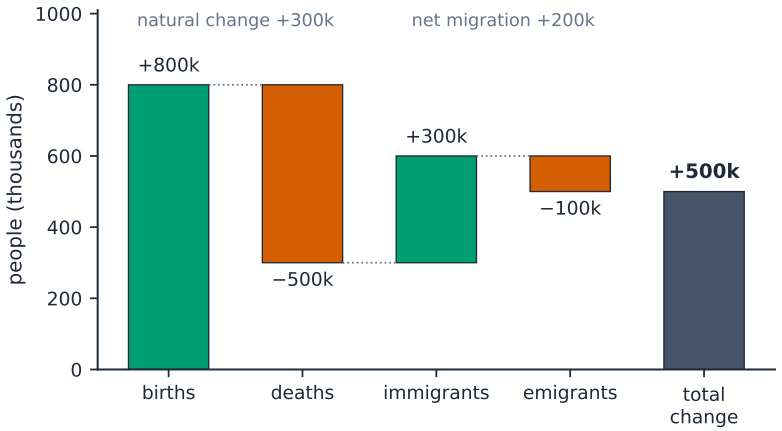
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The population grows when births plus immigration are more than deaths plus emigration.

> **Worked example.** In one year a country has 800,000 births, 500,000 deaths, 300,000 immigrants and 100,000 emigrants. Find the net migration and the total change in population.

- net migration = immigration - emigration = 300,000 - 100,000 = 200,000 (a net gain).
- natural change = births - deaths = 800,000 - 500,000 = 300,000.
- total change = natural change + net migration = 300,000 + 200,000 = 500,000.

So the population grew by 500,000 people that year.



Natural change plus net migration: the population grows by 500,000

The birth and death rates are given **per 1000 people**, so you can compare countries of different sizes. A country of 40 million with 600,000 births a year has a birth rate of 600,000 ÷ 40,000,000 × 1000 = **15 per 1000**.

Why population growth differs between countries

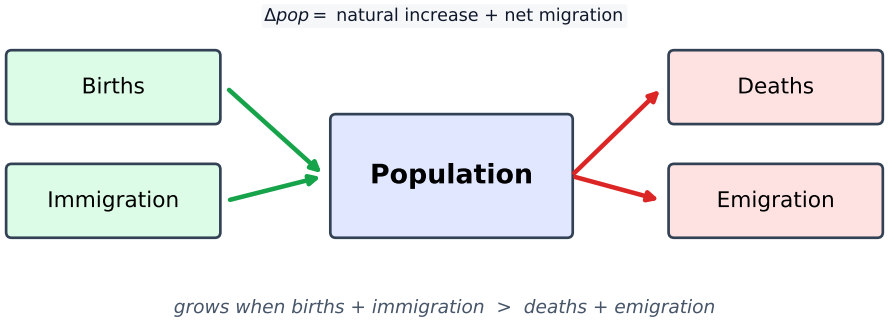
Many developing countries have a **high birth rate**:

- children can work on the family farm and support their parents in old age;
- many babies die young (a high **infant mortality rate**), so families have more children;
- less access to **contraception** 避孕, and fewer girls stay in education;
- religious and cultural views may favour large families.

Developed countries have a **low birth rate**: more women are educated and work, children are costly to bring up, and contraception is easy to get.

The **death rate** falls when there is better healthcare and medicines, clean water and **sanitation** 卫生设施, and a better diet. It has fallen in most countries, which is why world population has grown so fast.

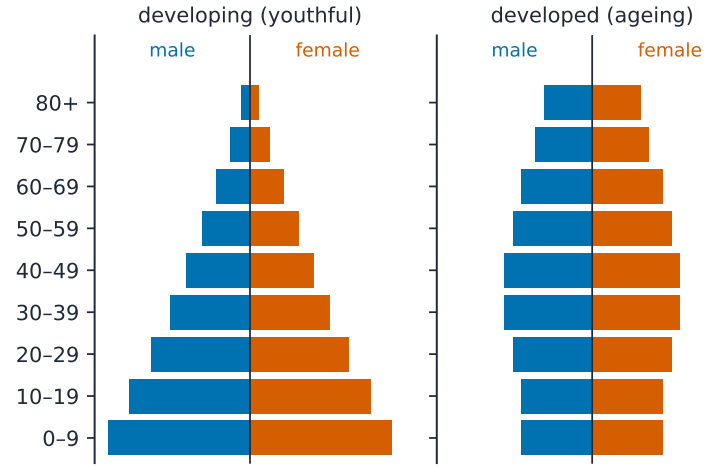
> **Worked example.** Country X has a birth rate of 35 per 1000 and a death rate of 10 per 1000; Country Y has a birth rate of 9 per 1000 and a death rate of 11 per 1000. Explain which population is growing faster, ignoring migration. Country X grows by 35 - 10 = **25 per 1000** a year (2.5%), because many more babies are born than people die. Country Y's natural change is 9 - 11 = **-2 per 1000**: its population is **falling**, unless net immigration is more than 2 per 1000.



A country's population grows when births plus immigration are greater than deaths plus emigration

Population structure

The **population structure** 人口结构 is how the population is split by age and sex. We often draw it as a **population pyramid** 人口金字塔 – a chart with age groups stacked up, males on one side and females on the other.



A developing country has a wide-based, youthful pyramid; a developed country is more column-shaped with a wider top (an ageing population).

Reading a pyramid. A wide base means a high birth rate and many young **dependants** 被抚养者 (people too young or too old to work). Steep, narrowing sides mean a high death rate. A wide top means people live long, so the population is ageing. A bulge on one side in the working ages can show **immigration** of young workers.

A growing or a young population

A fast-growing, young population has costs and benefits.

- **Costs:** the government must spend more on schools and on healthcare for children; there may not be enough jobs or housing as these children grow up; and more people share the country's output, so GDP per head can fall unless output grows faster.
- **Benefits:** in the future there will be a large **labour force** 劳动力, and more people means a larger market, which can attract firms.

A **falling** population brings the opposite problems: a shrinking labour force, fewer consumers and, with fewer young taxpayers, less tax revenue.

An ageing population

In many richer countries the **ageing population** 人口老龄化 is a big change: people live longer and have fewer children, so the share of old people rises. Effects:

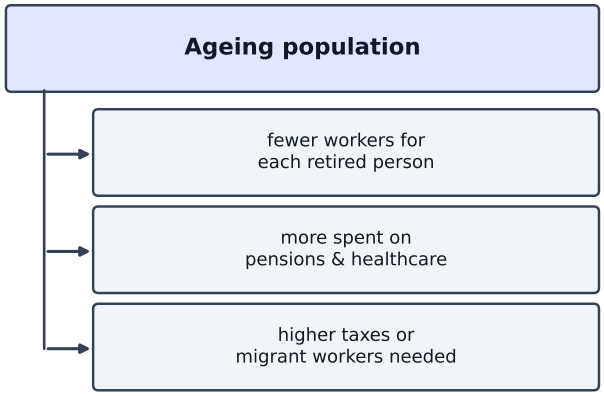
- fewer workers compared with the number of retired people, so each worker must support more people.
- the government spends more on pensions and healthcare.
- it may need higher taxes, or workers from other countries, to fill the gap.

Governments can respond by raising the **retirement age** 退休年龄, encouraging

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immigration of young workers, or paying benefits to families with children. An ageing population is not only a cost: older people buy goods and services such as healthcare and holidays, which creates jobs, and many keep working or look after grandchildren.

> **Worked example.** In a country, 30 million people are of working age (16 to 64), 8 million are under 16 and 10 million are 65 or older. In 20 years the over-65 group is forecast to rise to 15 million, with the other groups the same. Analyse one effect on the economy. Now there are 18 million dependants for 30 million workers, 0.6 for each worker; later there will be 23 million, about 0.77 for each worker. Each worker must support more people, so the government must **raise taxes** on workers, **cut other spending**, or **borrow** to pay for pensions and healthcare. Higher income tax can reduce workers' **incentive** 激励 to work.



Exam: ageing raises the dependency ratio

The main effects of an ageing population

Differences in economic development between countries

Economic development 经济发展 means a rise in people's well-being, not just more output. We often split the world into **developed countries** 发达国家 (rich, like Japan or Germany) and **developing countries** 发展中国家 (poorer, with lower incomes).



A developed economy: high incomes support a modern city of offices, finance and services

Why countries differ

- **income** – developed countries have much higher income per head.
- **productivity** 生产率 – developed countries use more capital and skill, so each worker produces more. In many developing countries, farmers do **subsistence farming** 自给农业 (growing food just for their own family), which produces little to sell.
- **population** – developing countries often have higher birth rates and younger populations.
- **resources, education, and health** – better schools, hospitals, and use of resources all raise development.
- **debt** 债务 – many developing countries owe large amounts of money, and paying it back leaves less for schools and hospitals.
- **trade** 贸易 – developed countries trade more, and often sell higher-value goods.

How developed and developing countries are linked

The two groups depend on each other. Developing countries sell raw materials and cheap goods to developed countries, and buy machines and skills from them. Trade, aid, and investment from richer countries can help poorer countries develop – but developing countries can also become too dependent on them.

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Data-response practice

This question follows the style of Paper 2. Try each part before reading the model answer.

Source: Comparing two countries

Indicator	Country A	Country B
Real GDP per head ($)	42 000	15 000
Life expectancy (years)	74	79
Average years of schooling	9	12
Richest 10 % share of income	50 %	25 %

Country A earns most of its income from oil exports. Most of the oil money goes to a small number of people. Country B has a smaller economy but spends a larger share of government spending on free health care and schools.

(a) Identify the country with the higher real GDP per head. [1] Country A.

(b) Calculate how many times larger real GDP per head is in Country A than in Country B. [2] $\frac{42\,000}{15\,000} = 2.8$ times.

(c) Explain two reasons why real GDP per head may not show the living standards of most people in a country. [4] First, it is an **average**: if income is shared unequally, most people may earn far less than the average. In Country A the richest 10 % receive half of all income. Second, it measures output, not quality of life: it leaves out health, education, pollution and free time.

(d) Analyse why Country B might have higher life expectancy than Country A. [6] Country B spends more on free health care, so more people can see a doctor and get treatment early. More years of schooling mean people understand health risks and earn more, so they can afford better food and housing. Because income is shared more equally, fewer people are in **absolute poverty**. Each of these lowers the death rate, so people live longer.

(e) Discuss whether people in Country A have higher living standards than people in Country B. [8] *Yes:* average income in Country A is 2.8 times higher, so on average people can buy more goods and services. The government may also collect more tax from oil to spend later. *No:* the **HDI** looks at health and education as well as income, and Country B does better on both: people live 5 years longer and have 3 more years of schooling. Income in Country A is very unequal, so the typical person earns far less than $42 000. Oil income can also fall quickly if world oil prices fall. *Conclusion:* the **average** person in Country A is richer, but **most** people in Country B probably enjoy a higher standard of living, because health, education and a fair share of income matter as much as money. To be sure, we would need data on median income, poverty rates and the HDI for both countries.

Exam tips

- **Real GDP per head** = GDP ÷ population, but it is an *average* that hides how income is shared. **HDI** adds health and education for a fuller picture.
- A population grows when births + immigration is greater than deaths + emigration. **Net migration** = immigration − emigration.
- An **ageing population** means fewer workers for each retired person, so more government spending on pensions and healthcare.
- Distinguish **absolute poverty** (cannot afford basic needs like food and shelter) from **relative poverty** (poor compared with others in the same country).

Vocabulary card meanings

redistribute: To shift income or wealth from one group toward another. benefits: State help, often paid in money, for people who qualify. population structure: How a population is divided by age and by other groups. developed countries: Countries with high income and mature industry. developing countries: Countries whose income and industry are still catching up. subsistence farming: Growing food mainly to feed the farmer's own household.

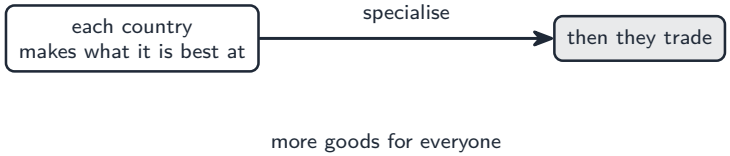
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International trade and globalisation

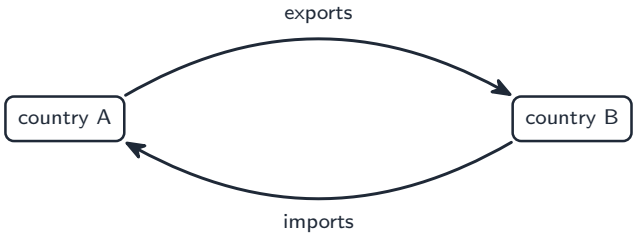
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Specialisation and free trade

Countries **trade** 贸易 with each other: they sell some goods and buy others. Just as one worker can focus on one task, a whole country can focus on making the goods it is best at. This is **specialisation** 专业化 at a national level.



Each country makes what it is best at, then trades



Exports are sold abroad; imports are bought from abroad



A container port: countries specialise and trade huge volumes of goods by sea

When a country specialises, it sells the goods it makes well (**exports** 出口) and buys the goods other countries make well (**imports** 进口).

Free trade

Free trade 自由贸易 means trade between countries with no barriers – no taxes or limits on imports. Its benefits:

- countries can buy some goods more cheaply from abroad than by making them at home.
- consumers get a wider choice of goods.
- firms can sell to bigger markets, so they gain economies of scale.
- more competition makes **domestic** 国内的 firms (firms in your own country) work harder and improve.

All of this can raise **living standards** 生活水平: lower prices and more goods for everyone.

Free trade also has disadvantages:

- domestic firms may not be able to **compete** 竞争 with cheaper foreign goods, so they close. This causes job losses.
- a country can become too **dependent** 依赖 on other countries for important goods.
- new, small industries may never grow if they face strong foreign rivals from the start.

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Globalisation and trade protection

Globalisation 全球化 is the way the world's economies are becoming more and more joined together – through trade, travel, the internet, and firms working across borders.

Multinational companies

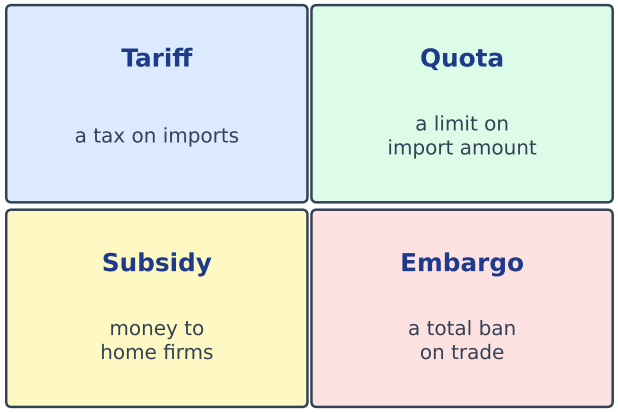
A **multinational company** 跨国公司 (MNC) is a firm that produces in more than one country – for example, a car maker with factories in several countries. The country an MNC sets up in is the **host country** 东道国.

- **Benefits** to the host country: new jobs, investment, new skills and technology, and more tax.
- **Drawbacks**: profits may flow back to the MNC's home country; local firms may be pushed out; and some MNCs pay low wages or pollute (for example, by sending waste to poorer countries).

Trade protection

Trade protection 贸易保护 is a government putting up barriers to limit imports and protect its own firms. The main methods:

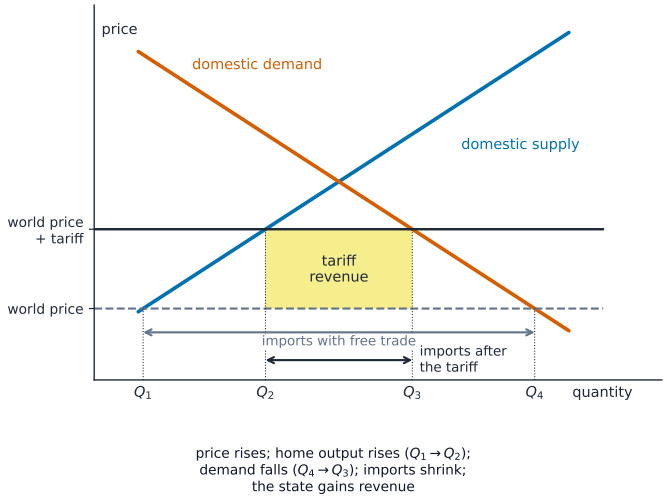
- a **tariff** 关税 – a tax on imports, which makes them dearer.
- a **quota** 配额 – a limit on the *amount* of a good that can be imported.
- a **subsidy** 补贴 – money paid to domestic firms so they can sell more cheaply than foreign rivals.
- an **embargo** 禁运 – a total ban on trade in a good, or with a country.



The four main methods of trade protection

Reasons for protection: to protect jobs; to protect an **infant industry** 幼稚产业 (a new industry too small to compete yet); to stop **dumping** 倾销 (foreign firms selling below cost to destroy local rivals); and to raise government revenue from tariffs.

But protection has costs. Prices rise and choice falls for consumers; protected firms stay weak and lazy; and other countries may hit back with their own barriers – a trade war.



A tariff raises the price from the world price to "world price + tariff": domestic supply rises, demand falls, imports shrink, and the shaded box is the government's tariff revenue

Foreign exchange rates

The **exchange rate** 汇率 is the price of one **currency** 货币 in terms of another – for example, £1 = 1.30 US dollars.

How the rate is set

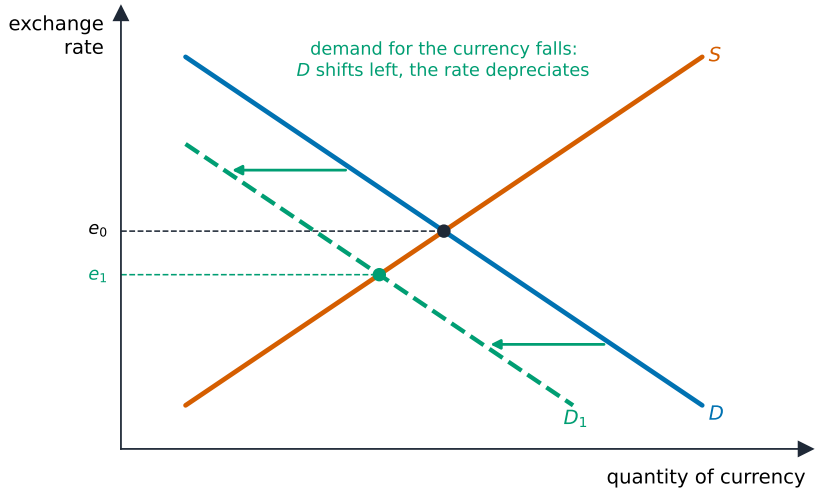
In a **floating exchange rate** 浮动汇率 system, the rate is set by the **demand** 需求 for and **supply** 供给 of the currency, just like any market.

- if more people want a currency – to buy that country's exports, or to invest there – demand for it rises, so its price (the exchange rate) rises.
- for example, if a country's interest rates rise, foreigners want to save money there, so demand for its currency rises and the rate goes up.

Other causes of a change in the exchange rate:

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- **exports and imports** – if foreign buyers want more of a country's goods, or more tourists visit it, demand for its currency rises; if its people buy more imports or travel abroad more, they sell its currency, so supply rises and the rate falls.
- **inflation** 通货膨胀 – if prices rise faster than in other countries, its exports become less competitive, demand for its currency falls, and the rate falls.
- **investment** 投资 – when foreign firms build factories in the country (an MNC setting up there), they buy its currency.
- **speculation** 投机 – if traders expect the currency to rise, they buy it now, which pushes the rate up.



The exchange rate is set where demand for the currency meets supply. If demand falls ($D \to D_1$), the rate falls – a depreciation.

Appreciation and depreciation

- **appreciation** 升值 – the currency rises in value (it buys more foreign money).
- **depreciation** 贬值 – the currency falls in value.

A change in the rate changes the price of exports and imports:

- if a currency appreciates (rises), its exports become dearer for foreigners and its imports become cheaper. So exports fall and imports rise.
- if a currency depreciates (falls), its exports become cheaper for foreigners and its imports become dearer. So exports rise and imports fall.

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Appreciation	Depreciation
(currency rises in value)	*(currency falls in value)*
exports dearer, imports cheaper → exports fall, imports rise	exports cheaper, imports dearer → exports rise, imports fall

Exam: appreciation hurts export competitiveness; depreciation can boost net exports (SPICED)

How a change in the exchange rate affects exports and imports

These changes then affect the whole economy. A **depreciation** can:

- create **jobs** in export industries and in firms competing with imports, and raise **economic growth**;
- cause **inflation**, because imported goods, fuel and raw materials become dearer, which raises firms' costs.

An **appreciation** does the opposite: it lowers inflation (cheaper imports) but can cost jobs in export industries.

> **Worked example.** The exchange rate is £1 = 1.30 US dollars. (a) A UK firm sells a machine for £2,000 – what is its price to a US buyer? (b) A US laptop costs 650 dollars – what does it cost a UK buyer?

- (a) price in dollars = 2,000 × 1.30 = 2,600 dollars.
- (b) price in pounds = 650 ÷ 1.30 = £500.

To change pounds into dollars you *multiply* by the rate; to change dollars into pounds you *divide*. Now suppose the pound appreciates to £1 = 1.50 dollars. The same £2,000 machine then costs a US buyer 2,000 × 1.50 = 3,000 dollars – dearer than before, which is why a stronger pound makes a country's exports harder to sell abroad.

The current account of the balance of payments

The **balance of payments** 国际收支 is a record of all the money flowing into and out of a country. Its main part is the **current account** 经常账户, which has four sections:

exports (money in) > imports (money out)

= a surplus

imports > exports = a deficit

Exports above imports is a surplus; below is a deficit

- **trade in goods** 货物贸易 – exports and imports of physical goods (cars, food, oil).
- **trade in services** 服务贸易 – exports and imports of services (tourism, banking, shipping).
- **primary income** 初次收入 – wages, interest, and profit earned from abroad.
- **secondary income** 二次收入 – money sent with nothing given in return, such as aid and gifts.



Cargo ships carry goods between countries – the trade-in-goods part of the current account

> **Worked example.** A country's current account (in $ billion) shows: trade in goods −20, trade in services +8, primary income +3, secondary income −2. Calculate the current account balance and state whether it is a deficit or a surplus.

Add all four parts: $-20 + 8 + 3 - 2 = -11$. The current account balance is **−$11 billion**, a **deficit**: more money flowed out than in. Notice that the surplus on services does not cover the large deficit on goods.

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Deficit and surplus

- a **current account deficit** 逆差 – more money flows out than in (the country buys more from abroad than it sells).
- a **current account surplus** 顺差 – more money flows in than out.

Causes and consequences

Causes of a current account **deficit**:

- high incomes at home, so people buy many imports;
- domestic goods that are **uncompetitive** – too expensive or of poorer quality than foreign goods;
- a high exchange rate, which makes exports dear and imports cheap;
- the loss of an export market, for example in a recession abroad.

Consequences of a deficit: the country must borrow from abroad or sell assets to pay for its imports; demand for its currency falls, so it may depreciate; and jobs may be lost in industries that cannot compete. A short deficit while firms import new machinery can be harmless, because the machines raise output later.

A current account **surplus** brings money into the country and supports jobs in export industries, but it can push the currency up (appreciation), and it may mean people are consuming less than they could. A government can reduce a surplus by **increasing** total demand, letting the currency appreciate, or removing trade barriers.

Correcting a deficit

A country with a large deficit must borrow money or sell assets to pay for it. To correct a deficit, a government can:

- cut total demand, so people buy fewer imports.
- let the currency depreciate, to make exports cheaper and imports dearer.
- use trade protection (tariffs and quotas) to cut imports.
- use supply-side policy to improve the **competitiveness** 竞争力 of its firms, so exports rise.

Data-response practice

This question follows the style of Paper 2. Try each part before reading the model answer.

Source: Velmora's falling currency

> Velmora exports rice and cotton cloth, and it imports most of its fuel and its cars. Over the past year its currency, the vel, fell from 1 vel = $0.50 to 1 vel = $0.40. Rice farmers say foreign buyers are ordering more. However, the cost of imported fuel has risen sharply, because fuel is priced in U.S. dollars. Velmora's only car factory wants the government to put a 30 %

tariff on imported cars "to protect 4 000 jobs".

(a) Identify one good that Velmora imports. [1] Fuel (or cars).

(b) Calculate the percentage change in the value of the vel against the U.S. dollar. [2] $\frac{0.40 - 0.50}{0.50} \times 100 = -20\%$. The vel has **depreciated** by 20 %.

(c) Explain how the depreciation affects the price of Velmora's rice to foreign buyers. [4] Suppose a tonne of rice sells for 1 000 vel. Before, a foreign buyer paid $1\,000 \times \$0.50 = \$500$. Now it costs $1\,000 \times \$0.40 = \$400$. The rice is cheaper in dollars, although Velmora's farmers still receive 1 000 vel. So foreign buyers want more Velmoran rice, as the farmers report.

(d) Analyse how the depreciation might affect Velmora's current account. [6] Exports become cheaper abroad, so the **quantity of exports rises** and export revenue tends to rise. Imports become dearer in vel, so Velmorans buy fewer imported goods. Both changes help the current account (exports rise, imports fall). However, fuel is a necessity with few substitutes, so demand for it is **price-inelastic**: Velmora still buys almost as much fuel at a higher price, and it spends **more** vel on fuel. So the current account improves only if demand for exports and imports is elastic enough; in the short run it may even get worse.

(e) Discuss whether a 30 % tariff on imported cars would benefit Velmora. [8] *Benefits:* the tariff makes imported cars dearer, so some buyers switch to cars made in Velmora. The car factory sells more and the 4 000 jobs are safer. The government also collects tariff revenue. (Use the tariff diagram above: domestic supply rises and imports fall.) *Costs:* every car buyer pays a higher price, including firms that need vans and lorries, so their costs rise too. With less competition, the local factory has less reason to become efficient. Other countries may answer with their own tariffs on Velmora's rice and cloth (**retaliation** 报复), which could cost more jobs than the tariff saves. *Conclusion:* the tariff would probably **not** benefit Velmora as a whole. It protects 4 000 jobs, but the cost falls on millions of car buyers and risks harming the export industries that are now growing because of the weaker vel. It might be justified only for a short time, to give the factory time to become competitive, if it is removed later.

Exam tips

- To convert currency: pounds → dollars, *multiply* by the rate; dollars → pounds, *divide* by the rate.
- When a currency **appreciates**, its exports become dearer and its imports cheaper (so exports fall, imports rise); a **depreciation** does the opposite.
- **Trade protection** (tariffs, quotas, subsidies, embargoes) can protect jobs and infant industries, but it raises prices, cuts choice, and can start a trade war.
- In a current account calculation, add the four parts and **state** whether the balance is a deficit or a surplus.

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- A **current account deficit** means more money flows out than in. It can be reduced by cutting demand, letting the currency depreciate, or improving competitiveness.

Vocabulary card meanings

domestic: Inside the home country rather than abroad. compete: To try to win buyers or resources against rivals. dependent: Relying on another country or another income in order to continue. host country: The country in which a foreign firm operates. embargo: An official ban on trade with a particular country. infant industry: A new home industry still too small to match foreign rivals, whether or not a government shields it. current account deficit: A shortfall on trade in goods and services, primary income, and current transfers, rather than every payment that leaves the country. current account surplus: An excess on trade in goods and services, primary income, and current transfers, rather than every receipt from abroad.