Course notes

Pearson Edexcel · International GCSE · Economics

4EC1, 2017 specification, Issue 3 (2026)

This is the linear 4EC1 course, not the separate modular qualification. Use Issue 3 onscreen-examination guidance for the chosen delivery mode.

Two 90-minute, 80-mark papers: Paper 1 microeconomics/business economics; Paper 2 macroeconomics/global economy. Each is 50%. No coursework. Rubric reviewed June 2025 on 4EC1/01 and 4EC1/02 papers and schemes: each paper is four compulsory 20-mark questions mixing 1-mark multiple choice, 1–2-mark define/state/calculate, 6-mark analyse, 9-mark assess and 12-mark evaluate items referencing supplied data; extended answers are level-marked (6-mark 1–2/3–4/5–6; 12-mark 1–4/5–8/9–12 with an AO4 judgement at the top); AO weightings AO1 14–15%, AO2 48–49%, AO3 23–24%, AO4 12–13% (Issue 3 specification pp. 6, 32; command words Appendix 2).

1.1.1–1.1.2 · Scarcity and economic choices

Scarcity means wants exceed available resources. Land, labour, capital and enterprise combine to produce goods and services.

A production possibility boundary separates feasible and infeasible combinations; moving along it reallocates resources.

■ Checked example

The school values the study room at 50 useful study hours a week and the studio at 30 rehearsal hours.
Choosing the studio sacrifices the study room: its opportunity cost is the 50 study hours, not the sum of both outcomes.

■ Limits and practice

Do not call every expense an opportunity cost. Identify the next-best alternative and its benefit.

A point inside a boundary may show unemployment or inefficient use, rather than fewer resources.

What is the opportunity cost of opening the studio?

Answer: The useful study time from the rejected study room.

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1.1.3–1.1.4 · Markets and elasticity

Demand shows quantities consumers are willing and able to buy at each price. A price change gives a movement along the curve.

Income, preferences or substitute prices can shift demand; input costs or technology can shift supply.

■ Checked example

Using initial values, percentage price change is 10% and percentage quantity change is −20%.
PED = percentage quantity change divided by percentage price change = −20/10 = −2. Revenue falls from 1,000 to 880 yuan.

■ Limits and practice

State the percentage-change convention and interpret the magnitude. A negative sign describes the usual inverse relationship.

Do not claim the whole curve has one elasticity, or confuse a change in quantity demanded with a demand shift.

Which description fits the café data if other factors stay unchanged?

Answer: Demand is price elastic over this change; total revenue falls.

1.1.5–1.1.6; 1.2.6(a–b) · Externalities and intervention

An external cost falls on a third party. Social cost combines private and external costs.

A mixed economy uses market allocation and government decisions; intervention can improve outcomes but has costs of its own.

■ Checked example

A per-journey charge can make the firm face part of the noise cost and reduce night deliveries.
A time restriction targets the noise more directly, but may reduce access for customers and needs enforcement.

■ Limits and practice

A tax does not remove every external cost. Its effect depends on responsiveness, measurement and evasion.

Compare policies against the actual problem, not a claim that all government action succeeds.

Why can the delivery market produce too many night journeys?

Answer: The firm does not face the full external noise cost in its private decision.

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1.2.1–1.2.3 · Production, costs and growth

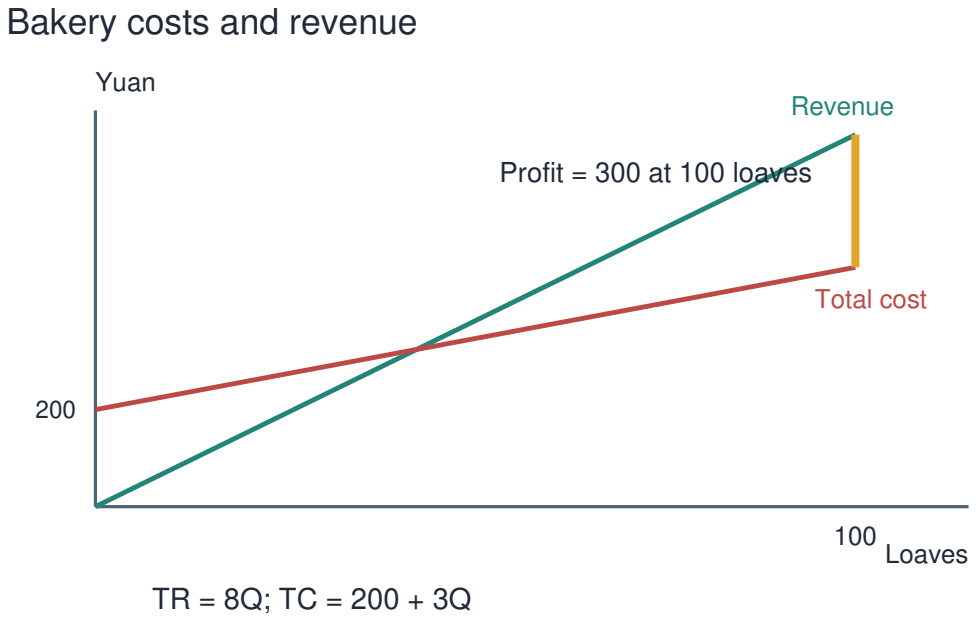
Productivity is output per unit of input. Division of labour splits production into specialised tasks.

Fixed costs do not change with output in the relevant period; variable costs do. Total cost is their sum.

■ Checked example

A bakery has fixed costs of 200 yuan and variable cost of 3 yuan per loaf. At 100 loaves, total cost = 200 + 3 × 100 = 500 yuan.

At 8 yuan per loaf, revenue = 8 × 100 = 800 yuan and profit = 800 − 500 = 300 yuan.



■ Limits and practice

Economies of scale lower long-run average cost as scale increases; they are not simply a higher total profit.

Coordination problems and slow communication can cause diseconomies in a large business.

What is average total cost at 100 loaves?

Answer: 5 yuan per loaf.

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1.2.4–1.2.6 · Competition and labour

Competition can encourage lower prices, choice and innovation. Market power can reduce competitive pressure.

Labour demand is linked to the demand for output; skills, productivity and labour supply influence wages.

■ Checked example

A new employer raises demand for local electricians. With unchanged supply, their wage tends to rise.
A training programme can later increase skilled labour supply and reduce shortages.

■ Limits and practice

A large firm is not automatically a monopoly, and monopoly does not guarantee high profit.

A wage comparison must consider skills, working conditions, hours and institutions, not one cause alone.

What tends to happen when labour demand rises and labour supply is unchanged?

Answer: The market wage tends to rise.

2.1.1–2.1.3 · Government objectives and policies

Inflation is a sustained rise in the general price level. Growth is an increase in real output.

Fiscal policy changes government spending and taxation; monetary policy influences interest rates and monetary conditions.

■ Checked example

If nominal GDP rises by 8% while prices rise by 5%, real growth is about 3%.
Lower interest rates may raise investment and consumption, but borrowers must be willing and able to respond.

■ Limits and practice

Slower inflation means prices rise more slowly, not that prices fall.

Judge a policy by time lags, spare capacity, public finances and the source of inflation.

What does a fall in inflation from 8% to 3% usually mean?

Answer: The general price level is still rising, but more slowly.

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2.2.1–2.2.3 · Trade and exchange rates

Globalisation increases connections through trade, investment and other flows. Trade can widen choice and allow specialisation.

Tariffs tax imports; quotas limit quantities. Both may protect producers while raising costs for buyers.

> ■ **Checked example**
>
> The book cost is $20 \times 7 = 140$ yuan before, and $20 \times 8 = 160$ yuan after.
> The yuan has depreciated against the dollar under this quotation; imported goods become more expensive in yuan.

■ Limits and practice

Always state the quotation before calling a currency stronger.

Export competitiveness also depends on imported inputs, demand, quality and contracts, so depreciation is not a guaranteed solution.

Which change has occurred in the book example?

Answer: The yuan depreciates and the yuan price of the dollar-priced book rises.

Specification-target extension teaching

■ 1.1.1(a–e) · Reading a production possibility frontier

A print room can use its workers and machines to make books or posters.

A choice of output changes what the same resources can produce.

A production possibility frontier shows maximum combinations with current resources and technology. Points on it use resources efficiently; points inside leave productive capacity unused.

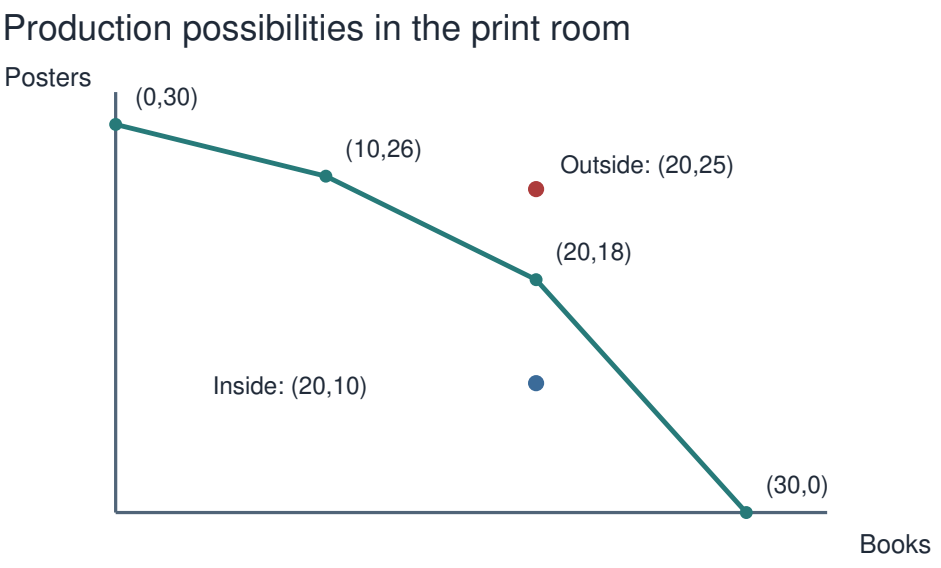
A move along the frontier reallocates resources. An outward shift means more productive capacity, perhaps from skills or machinery; damage or lost resources can shift it inward.

Checked example

The frontier points are (books, posters): (0,30), (10,26), (20,18), (30,0). Moving from 10 to 20 books gains 10 books and gives up 8 posters.

Opportunity cost per extra book = posters forgone divided by books gained = 8/10 = 0.8 poster. Moving from 20 to 30 books gives up 18 posters: 1.8 posters per book.

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Same resources: more books require fewer posters.

The opportunity cost rises in this example because resources are not equally suitable for both products. A straight frontier would model constant opportunity cost.

More actual production from an inside point need not mean the frontier shifted. A point outside is currently unobtainable, not permanently impossible. The same opportunity-cost rule applies to a consumer's next-best purchase and a government's next-best use of a public budget.

■ 1.1.2(a–c) · When economic agents choose other aims

A learner buys a familiar snack despite preferring a cheaper alternative in a blind taste test.

A repair shop keeps an unprofitable emergency service because it wants to help customers.

The standard consumer assumption is choosing the greatest benefit within available resources. Poor calculation, habits and copying others can lead to different choices.

The standard business assumption is maximum profit, not maximum sales or revenue. Sales maximization seeks the greatest quantity sold; revenue maximization seeks the greatest price × quantity. Managers may seek revenue, owners may value customer care, and an enterprise may perform charitable work.

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Checked example

Plan A earns revenue 1200 yuan and costs 900: profit = revenue − cost = 300 yuan. Plan B earns revenue 1500 and costs 1300: profit = 200 yuan.

Revenue maximization favours B; profit maximization favours A if these are the only plans. An owner might still choose B for a stated service aim, but that is a different objective.

Habit is an explanation to investigate, not proof that every familiar choice is irrational: convenience or reliability may produce a real benefit.

A charitable aim does not remove the need to pay costs. Separate the intended aim from whether the business can sustain it.

■ 1.1.4(h–n) · Price elasticity of supply

A printer can make extra notebooks next week using spare machines. A farmer cannot harvest another crop next week.

The same price rise need not create the same output response.

Price elasticity of supply (PES) compares the percentage change in quantity supplied with the percentage change in price. PES above 1 is elastic; between 0 and 1 is inelastic; 1 is unitary; 0 is perfectly inelastic (vertical in the model). Perfectly elastic supply is horizontal at one price in the model.

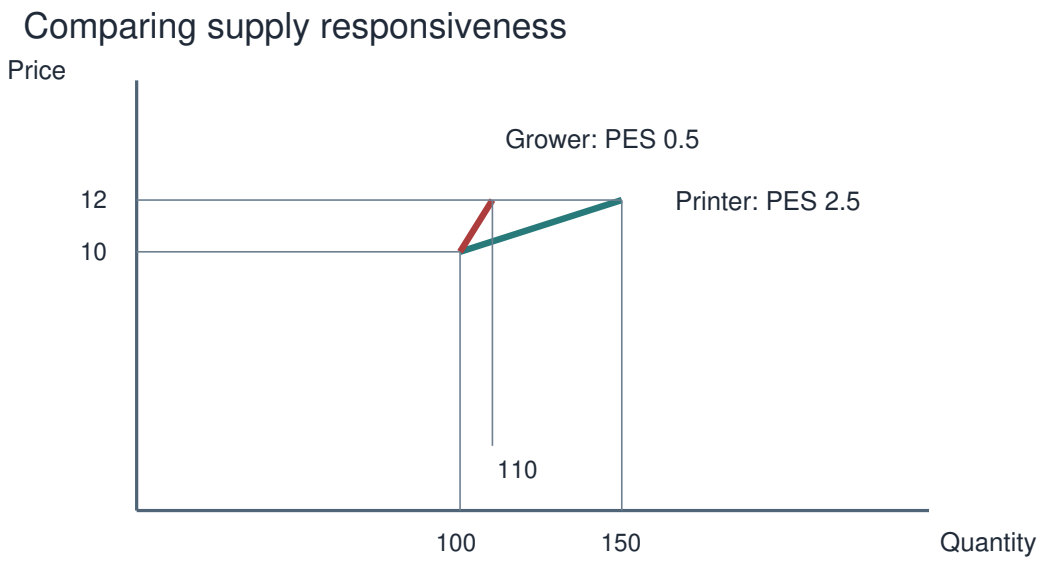
Stocks, spare capacity, available factors and time affect responsiveness. Manufacturing can often expand quickly with spare capacity; primary output may depend on seasons, weather and biological growth.

Checked example

Price rises from 10 to 12 yuan. A printer increases output from 100 to 150 units; a grower increases supply from 100 to 110 units.

Percentage price change = $(12-10)/10 \times 100 = 20\%$. Printer quantity change = 50%; PES = $50/20 = 2.5$. Grower quantity change = 10%; PES = $10/20 = 0.5$.

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Same 20% price rise; quantity rises 50% or 10%.

Use the stated initial-value convention and compare percentages, not raw units. A gain of 50 units alone does not determine elasticity.

A crop with stored stocks may respond faster than a factory already at capacity. Do not classify all manufactured or primary products alike.

■ 1.1.4(o–s) · Income elasticity and changing demand

After income rises, a family buys more train journeys but fewer low-cost instant meals.

A rise in purchasing power can increase one product's demand and reduce another's.

Income elasticity of demand (YED) is percentage quantity-demanded change divided by percentage income change. Positive YED indicates a normal good; negative YED indicates an inferior good for that group and income range.

A luxury has YED above 1: demand rises more proportionately than income. Normal necessities often have positive YED below 1. Inferior describes an income response, not unsafe or defective quality.

Checked example

Income rises from 2000 to 2200 yuan, a 10% increase. Journey purchases rise from 20 to 23, a 15% increase: YED = 15/10 = 1.5.
Instant-meal purchases fall from 10 to 8, a −20% change: YED = −20/10 = −2.
Journeys are a luxury in this observation; meals are inferior in this observation.
Classification can change with consumers, income range and time. One household is not an entire market, and a simultaneous price change can confound the calculation.
PED answers a price question; YED answers an income question. Positive YED does not imply price-inelastic demand.

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■ 1.1.5(a–k) · Mixed provision and the free-rider problem

A city provides street lighting and sells bus tickets. A private company repairs bicycles.

Who owns a service and whether it is a public good are different questions.

In a mixed economy, prices and private decisions allocate some resources while government ownership, spending and rules allocate others. Public-sector ownership and private-sector ownership differ in control and aims.

A public good is non-rival and non-excludable: one person's use does not reduce another's, and it is difficult to exclude non-payers. Free riders can weaken the private incentive to fund provision.

> **Checked example**
>
> A pedestrian benefits from an operating street light without paying separately; another pedestrian can benefit at the same time. A bus seat is different: a ticket can exclude non-payers and a full seat cannot serve another passenger simultaneously.
> Privatizing a publicly owned bus company changes ownership, not automatically competition. In fictional economy A, 20 of 100 workers have public-sector jobs; in B, 40 of 100 do. Public employment shares are 20% and 40%, showing different sector importance on that measure.
> Free of charge is not the same as a public good: a free clinic appointment still uses limited staff time. Public provision can finance a public good, even when a private contractor installs it.
> Privatization may improve incentives but can affect fares, access, jobs and public finances. Evaluate regulation and competition rather than assuming ownership alone determines performance.

■ 1.2.4(h–j) · Oligopoly and interdependent decisions

Three mobile-network companies serve most customers in a region. One offers a cheaper data package; the others must consider whether to respond.

A firm's result depends partly on what its rivals do.

An oligopoly has a few firms dominating the market. Entry barriers and product differentiation can sustain their position. Interdependence means a decision's outcome depends on rivals' responses.

Price competition cuts prices or offers discounts. Non-price competition uses quality, coverage, service or promotion. Collusion coordinates conduct; a cartel may restrict competition and maintain high prices.

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Checked example

A network cutting its package price may gain customers if rivals keep their prices. If rivals match the cut, the first firm gains fewer new users while revenue per customer falls across firms.

Better coverage can attract customers without the same price response, but investment costs matter. Collusion might raise firms' margins while harming customers through higher prices or less choice.

A few firms do not prove that collusion occurred. Look for evidence, and distinguish lawful independent responses from prohibited agreements under the applicable rules.

Oligopoly can support large-scale investment and innovation as well as weak competition. A price war can benefit current consumers but put pressure on investment or a weaker firm.

■ 1.1.3(a–c) · Demand: a movement or a shift?

A learner wants a costly concert ticket but cannot afford it. A different learner can afford it but does not want to attend.

Neither desire alone nor money alone establishes demand for that ticket.

Demand is the quantity buyers are willing and able to purchase at each price over a period. A change in the ticket's own price causes movement along its demand curve, with other determinants unchanged.

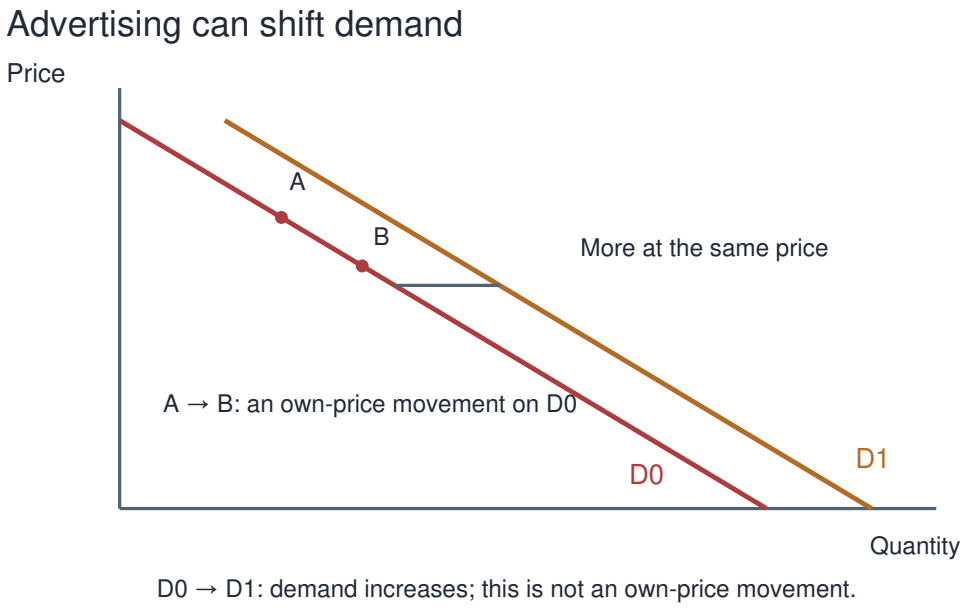
Advertising, fashion and tastes, income, population size/age patterns and the prices of substitutes or complements can shift the curve. For a normal good, higher income usually raises demand; the income effect differs for an inferior good.

Checked example

At a ticket price of 80 yuan, the old demand schedule shows 40 tickets. After an effective advertising campaign it shows 55 at the same price. This is increased demand, not a movement caused by a price cut.

A competing concert is a substitute: its price fall can reduce demand for this concert. Travel to the concert can be a complement: a higher travel price can reduce ticket demand.

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A rightward shift means more demanded at each unchanged price. Do not use "demand increases" for every own-price movement; specify quantity demanded when price changes.

The direction depends on the relationship: higher income does not raise every product's demand, and products are substitutes or complements in a particular use.

■ 1.1.3(d–f) · Supply and production conditions

Two nurseries charge the same price for plants. One installs efficient watering equipment; the other loses plants during a storm.

Their willingness and ability to supply can move in opposite directions.

Supply is the quantity sellers are willing and able to offer at each price over a period. A change in the product's own price gives movement along supply.

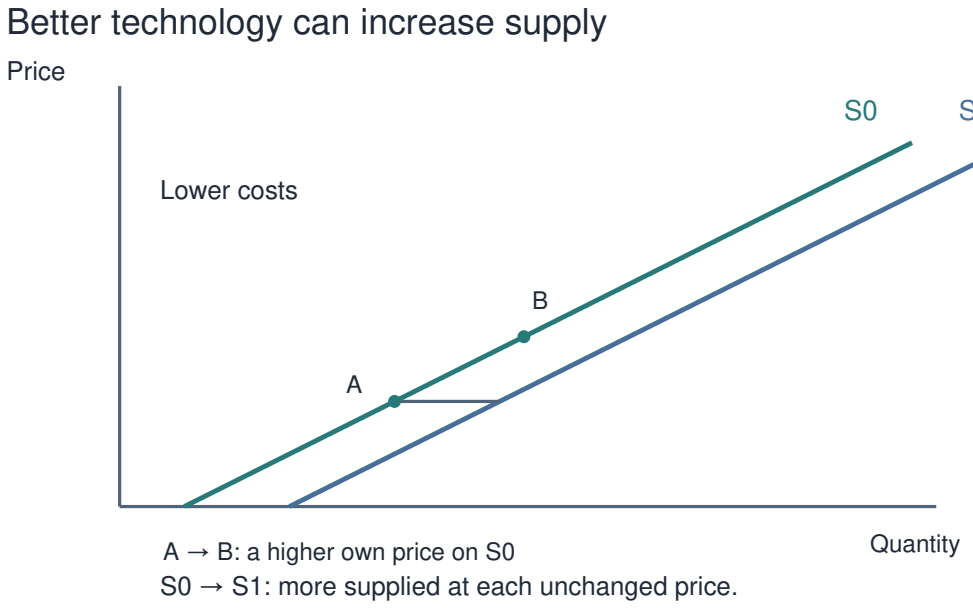
Lower input costs or better technology can increase supply. An indirect tax can reduce it; a per-unit subsidy can increase it. Weather and disasters affect productive conditions, especially for primary products.

Checked example

At 20 yuan per plant, a nursery originally offers 80 plants. Efficient watering reduces costs and it now offers 100 at that price: supply increases.

A storm that destroys seedlings may reduce the quantity offered at every price. A tax raising cost per plant has a different cause but can also shift supply left.

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An increase in actual sales does not by itself prove supply shifted: demand may have risen and moved the seller along supply. A warehouse stock is available inventory, not a complete supply schedule.

A subsidy's effectiveness depends on productive constraints and the period. A payment cannot instantly replace destroyed plants.

■ 1.1.3(g–j) · Equilibrium, shortages and surpluses

A school stall offers reusable bottles. At a low price, buyers queue for bottles that are unavailable. At a high price, unsold bottles remain.

Equilibrium concerns planned buying and selling, not whether everyone wants a bottle.

Equilibrium occurs where quantity demanded equals quantity supplied. Below equilibrium, excess demand can place upward pressure on price. Above it, excess supply can place downward pressure on price.

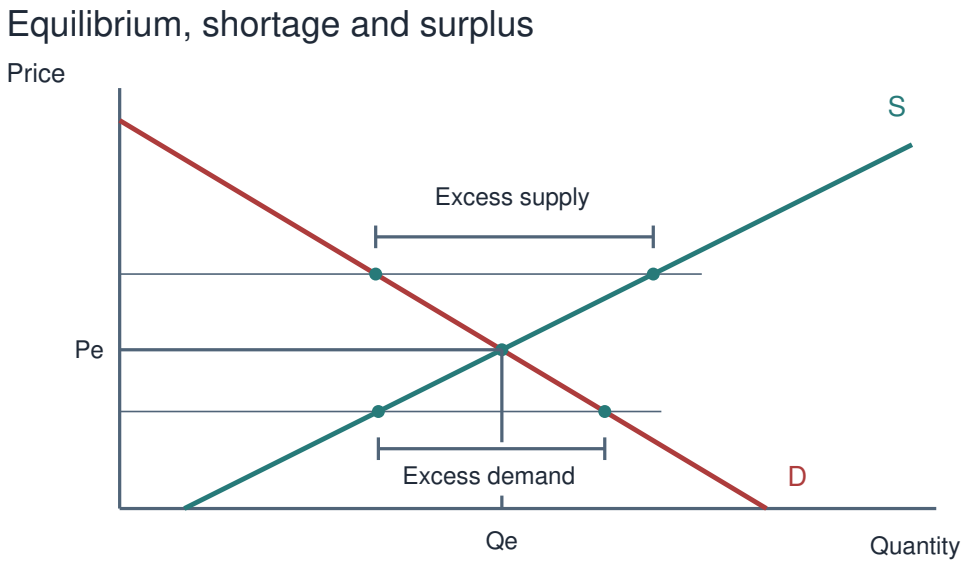
A demand increase tends to raise equilibrium price and quantity with upward-sloping supply unchanged. A supply increase tends to lower price and raise quantity with downward-sloping demand unchanged.

Checked example

The schedule is: price 10, Qd 90, Qs 30; price 15, Qd 70, Qs 70; price 20, Qd 50, Qs 100. Equilibrium is 15 yuan and 70 bottles.

At 10 yuan, excess demand = Qd − Qs = 90 − 30 = 60. At 20 yuan, excess supply = Qs − Qd = 100 − 50 = 50. Do not add the two quantities to find the imbalance.

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A price below Pe gives quantity demanded greater than quantity supplied.

Adjustment depends on prices being able to change and buyers/sellers responding. A price control or a short production delay can prevent rapid clearing.

A demand shift does not shift supply: the new equilibrium involves movement along the unchanged supply curve. If both curves shift, one effect may be ambiguous without magnitudes.

■ 1.1.4(a–g,s) · Demand elasticity and revenue decisions

A museum considers raising its entry price. More money per visitor sounds attractive, but some visitors may stop coming.

Revenue depends on price multiplied by the number of paying visits.

PED is percentage quantity-demanded change divided by percentage price change. Interpret the magnitude: zero is perfectly inelastic; below 1 is inelastic; 1 is unitary; above 1 is elastic. Perfectly elastic demand is represented by a horizontal curve at one price in the model.

Close substitutes, low necessity, a large income share and more time to adjust often make demand more elastic. A steep curve alone is not enough: compare percentages and hold diagram scales comparable.

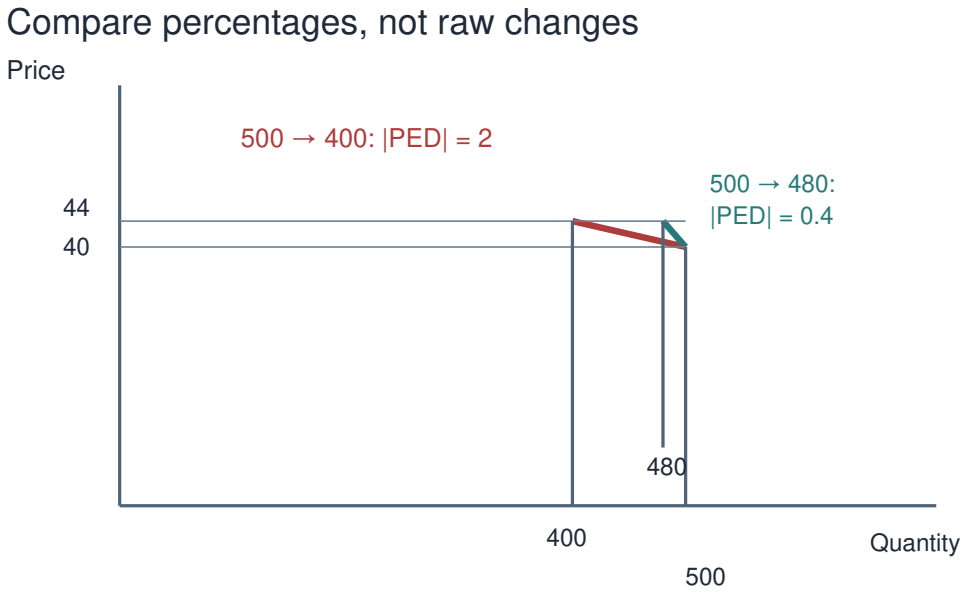
Checked example

The entry price rises from 40 to 44 yuan, a 10% rise. Visits fall from 500 to 400, a −20% change. PED = −20/10 = −2, so demand is elastic over the change.

TR before = P × Q = 40 × 500 = 20000 yuan. TR after = 44 × 400 = 17600 yuan. Revenue falls by 2400 despite a higher price. With inelastic demand a price rise instead tends to raise TR; unitary point elasticity gives no first-order revenue change locally.

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For a finite change, calculate both revenue totals; midpoint unit elasticity corresponds to equal endpoint revenues.



Equal 10% price rise; different proportionate quantity responses.

Revenue is not profit: costs and the mix of visitors still matter. An elasticity estimated for one range or season need not apply to a large future price rise.

An indirect tax on an inelastic-demand product may reduce consumption relatively little; a subsidy's consumption effect also depends on responsiveness. Apply the response to the policy's aim, not a slogan that all taxes work equally.

■ 1.1.6(a–e) · Private, external and social effects

A laundry's accounts include detergent and wages but omit damage to a downstream garden. Vaccination helps the recipient and can also reduce infection risks for others.

Some effects reach people outside the transaction.

Private costs and benefits affect the decision-maker. External costs or benefits affect third parties. Social cost = private cost + external cost; social benefit = private benefit + external benefit.

Production can create pollution, congestion or environmental damage. Consumption of education, healthcare or vaccination can benefit others through skills, care or reduced disease transmission.

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Checked example

For one laundry batch, private cost is 120 yuan and a measured third-party damage is 30. Social cost = 120 + 30 = 150 yuan. A vaccination has a private benefit valued at 80 and an external benefit valued at 20: social benefit = 100 yuan in this illustrative valuation.

Omitting damage can lead to too much harmful production; ignoring external benefits can lead to too little beneficial consumption relative to the wider social interest.

A producer's own bill is not an external cost simply because it is large. Likewise, a recipient's own health benefit is private, even when government pays for the service.

Valuing health or environmental effects is difficult. The supplied monetary values illustrate the formula, not actual compensation or a clinical claim.

■ 1.2.6(a–b); 2.1.2(d) · Choosing an environmental intervention

Two factories discharge waste into a shared stream. One can reduce discharge cheaply; the other must replace expensive machinery.

A rule can set the aim, but its design changes the cost of meeting it.

A tax charges for a polluting activity and changes incentives. A subsidy can support cleaner methods. Regulation sets a requirement; a fine penalizes a breach. Tradable pollution permits cap allowed emissions and let firms trade permission.

A cap controls total permitted emissions if it is enforced; trading lets lower-cost reducers sell permits. A tax makes the charge explicit but does not guarantee a fixed quantity reduction.

Checked example

Factory A can remove a unit of discharge for 20 yuan and B for 60. A permit priced at 40 gives A an incentive to reduce and sell unused permission; B may prefer buying permission to a 60-yuan reduction.

A can save resources relative to forcing both to make the same costly reduction. This reasoning assumes valid measurement, a credible cap and a functioning trading system.

A fine matters through both its amount and the chance of detection. A large fine rarely enforced may change little. Subsidies need funding and may reward improvements that would occur anyway.

Permit allocation affects distribution, and local pollution hotspots can remain even if total emissions fall. Compare the exact harm, measurement, enforcement, cost and access to cleaner alternatives.

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■ 1.2.1(a–c) · Production factors and changing sectors

A timber business harvests wood, a workshop makes desks, and a courier delivers them.

The linked production chain contains three different types of activity.

Land includes natural resources; labour is human effort; capital is produced equipment used in production; enterprise organizes resources and bears business risk. Money can finance capital, but a banknote is not itself a machine.

The primary sector extracts or grows natural resources, the secondary sector manufactures or constructs, and the tertiary sector supplies services. Agricultural productivity can release workers; rising incomes can increase demand for manufactured goods and services. Urbanization and technology also change sector employment and output shares.

Checked example

Harvesting timber is primary, making desks secondary, and courier delivery tertiary. The forest is land, a carpenter labour, a saw capital, and the owner's organization/risk-taking enterprise.

Manufacturing employment rises from 100 to 110 workers while total employment rises from 200 to 250. Its share falls from $100/200 \times 100 = 50\%$ to $110/250 \times 100 = 44\%$, despite more manufacturing workers.

A falling share does not necessarily mean falling absolute output or employment. Employment shares and output shares can differ because sectors have different productivity.

Countries do not follow one guaranteed path. A resource-rich or service-specialist economy can differ from the simplified primary-to-secondary-to-tertiary pattern.

■ 1.2.2(a–d) · Productivity and division of labour

A workshop reorganizes cutting, assembly and packing. The same team produces more items in the same working time.

More output can come from using inputs better, rather than adding more workers.

Productivity is output per unit of input. Output per worker or per worker-hour must use a consistent period. Land improvements include irrigation, drainage, reclamation or fertilizer; labour quality can improve through training and education; capital quantity and technology can improve productive methods.

Division of labour gives workers specialized tasks. Practice, less switching and suitable tools can raise efficiency. Repetition, dependence on other tasks and narrow skills can reduce motivation or flexibility.

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Checked example

Initially 5 workers make 100 items in 4 hours. Worker-hours = workers × hours = 5 × 4 = 20; productivity = output divided by worker-hours = 100/20 = 5 items per worker-hour.

After training they make 140 items in the same 20 worker-hours: productivity = 140/20 = 7. Output and productivity rise, but output quality and additional training costs still need checking.

Adding workers can raise output without raising output per worker. Migration can expand the workforce and bring skills, but its productivity effects depend on matching and conditions.

Specialization may suit repeated production better than a small workshop making varied one-off products. Judge both worker outcomes and firm efficiency.

■ 1.2.3(b–c) · Economies and diseconomies of scale

A larger workshop negotiates a lower material price and uses a specialist manager. Yet expanding further causes delays because instructions pass through many layers.

A larger scale can bring both savings and coordination costs.

Economies of scale reduce long-run average cost as scale grows. Internal economies arise within the firm: purchasing, marketing, technical, financial, managerial and risk-bearing advantages. External economies arise from the industry or area, such as skilled labour, suppliers and infrastructure.

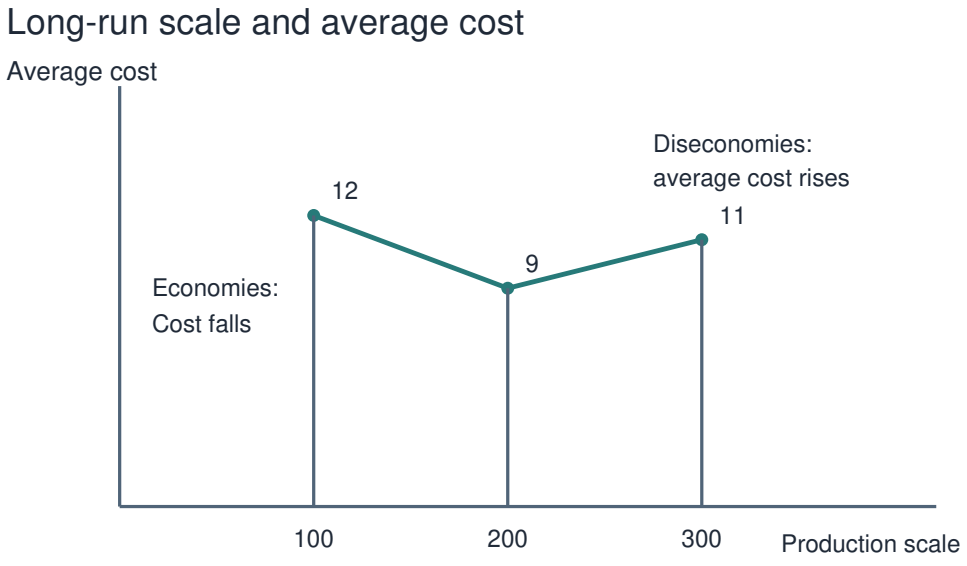
Diseconomies raise long-run average cost through bureaucracy, poor communication, weak control or distance between managers and workers. A long-run average cost curve shows how average cost changes across scales, not a firm's short-run total-cost bill.

Checked example

Small-scale total cost is 1200 for 100 items: average cost = TC/Q = 12. At a larger scale total cost is 1800 for 200: average cost = 9. Total cost rises while average cost falls.

At an even larger scale, delays raise total cost to 3300 for 300: average cost = 11. The 200-item scale has the lowest average cost among these three observations.

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Lowest observed average cost: 9 at the 200-item scale.

External economies are not external benefits from consumption: the terms describe different concepts. A supplier cluster can reduce costs for several firms without being an ownership change.

The lowest observed average cost is not proof of the exact minimum of a continuous LRAC curve. Higher total profit also does not establish economies of scale without average-cost evidence.

■ 1.2.4(a–g) · Competition, firm size and monopoly

A small repair shop knows its customers well. A large chain buys parts cheaply and can fund new equipment.

Being large or small creates opportunities and constraints, not a guaranteed performance ranking.

Competition can encourage lower prices, efficiency, quality, choice and innovation, but pressure can also reduce margins or duplicate costly investment. Large firms may access finance, spread risk and exploit scale; small firms can adapt to niches and provide personal service.

Growth depends on finance, regulation, market demand, economies and acquisition opportunities. Firms may stay small because the market is limited, finance unavailable or owners value independence. Monopoly involves one dominant supplier, often protected by legal rights, patents, technology, marketing strength or high start-up costs.

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Checked example

The repair chain's bulk discount may lower average parts cost, but a small specialist can compete through expertise and flexible appointments. A rural market may not support a second large branch.

A single broadband supplier may charge more when customers lack alternatives. Its scale may also support infrastructure investment. Compare its costs, service standards and barriers instead of inferring price or profit from size alone.

Market power does not guarantee profit: demand and costs matter. A dominant firm may innovate, while weak competitive pressure may also reduce its incentive to improve.

Competition regulation can protect consumers, control mergers and limit abuse of market power. It should be evaluated against the specific market, not treated as a ban on every large firm.

■ 1.2.5(a–f) · Wages, skills and labour-market shifts

A new order for bicycles leads workshops to recruit mechanics. A training college later qualifies more mechanics.

Product demand and the supply of skills can move the labour market separately.

Labour demand is derived from demand for what workers produce. Higher productivity can make workers more valuable, while machine substitutes may change the demand for particular tasks.

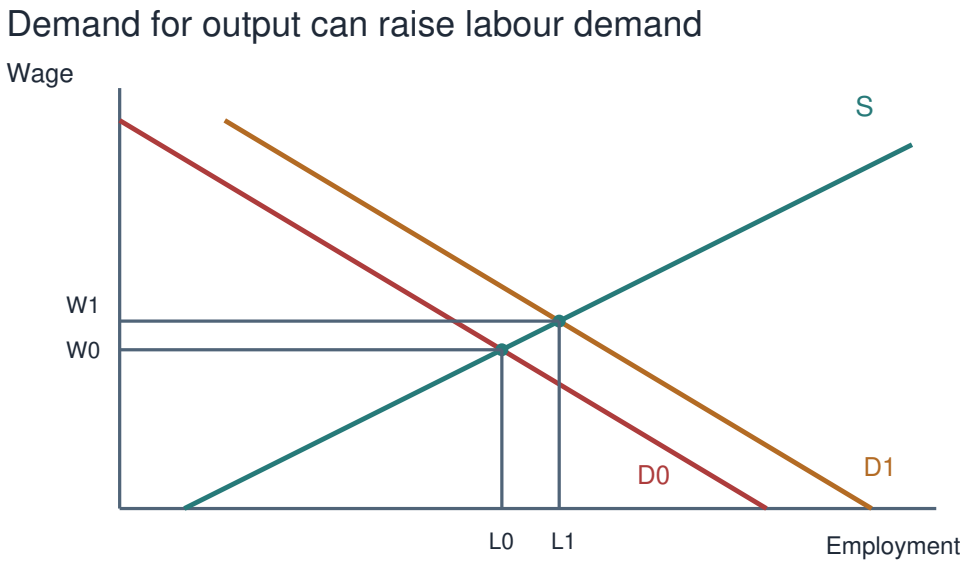
Labour supply depends on population and migration, age patterns, retirement and school-leaving ages, participation (including female labour-force participation), qualifications and geographic/occupational mobility. Quantity and quality matter: many available workers may not yet have the required skills.

Checked example

With labour supply unchanged, greater demand for bicycle mechanics tends to raise equilibrium wages and employment. With labour demand unchanged, more qualified mechanics shifts supply right: employment tends to rise while wage pressure eases.

Education and training develop human capital. A trade union can collectively negotiate wages, hours and working conditions. Better conditions may support retention; disputes can interrupt production. Effects depend on bargaining power, labour-market conditions and the employer's ability to respond.

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Higher demand for mechanics: wage and employment rise in this model.

A shift in product demand is not an automatic increase in every occupation's wages. Training takes time and qualifications must match jobs.

A higher wage can attract more workers along labour supply; population or qualifications can instead shift the curve. Union gains need evaluation alongside employer costs, working conditions and possible employment responses.

■ 1.2.6(c–d) · Minimum wages and competition rules

A town introduces a wage floor above the previous market wage. Some workers who keep their jobs gain income, while employers reconsider hours, staffing and prices.

The effect depends on where the floor sits and how the market responds.

A minimum wage is a legal wage floor. In a competitive model, a floor above equilibrium raises quantity of labour supplied and reduces quantity demanded, creating excess supply of labour. A floor below equilibrium is non-binding in that simple model.

Reasons include protecting low-paid workers and raising living standards. Possible costs include higher business expenses, reduced jobs/hours or higher prices. Competition rules separately address market power, consumer interests and mergers that could weaken competition.

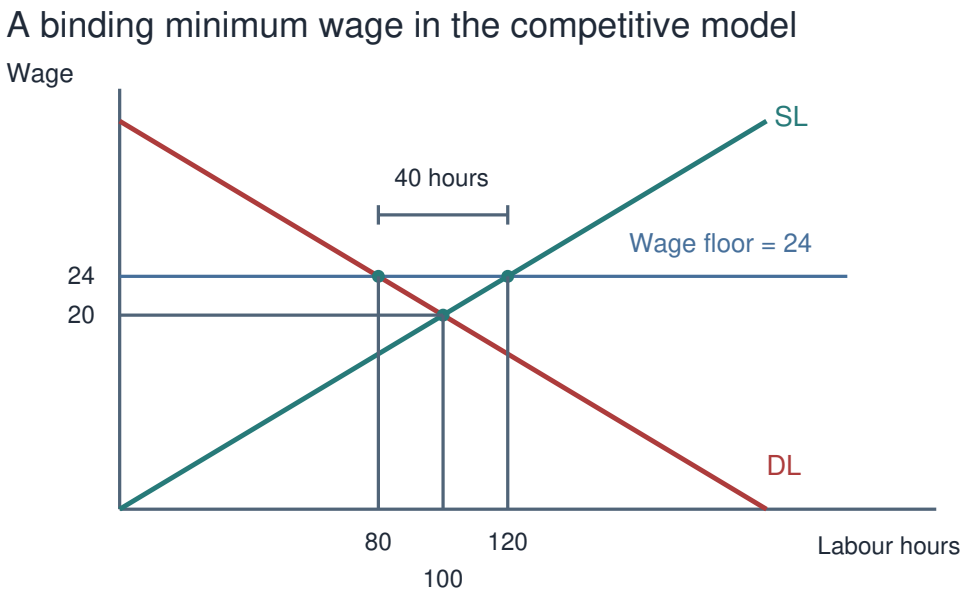
Checked example

At the original equilibrium wage 20 yuan, employers demand and workers supply 100 hours. At a minimum wage of 24, the supplied schedule shows demand 80 hours and supply 120.

Excess labour supply = Qs − Qd = 120 − 80 = 40 hours. Employed hours in this model are 80, not the 120 offered. A further increase can widen the gap, depending

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on the slopes and response.



At the floor: 80 hours demanded; 120 offered; excess supply 40.

The diagram is a model, not proof that every real minimum-wage rise cuts employment by the same amount. Enforcement, market power, productivity, staff turnover and demand responsiveness can change outcomes.

Do not label all 40 hours as identified newly unemployed people: the schedule is measured in hours and includes additional labour offered. Evaluate workers who retain employment as well as those unable to find work.

■ 1.2.3(b) · Where scale savings come from

A packaging firm orders larger batches of cardboard and appoints specialist managers. Nearby firms share access to trained workers and transport links.

Some savings come from the firm itself; others come from its industry or location.

Internal purchasing economies come from bulk discounts; marketing costs can spread over more sales; technical economies use efficient large equipment. Financial economies can mean cheaper access to finance; managerial economies use specialists; risk-bearing economies spread exposure across products or markets.

External economies come from a shared skilled workforce, infrastructure, suppliers or nearby related businesses. The firm need not itself grow to benefit from improvements in its surrounding industry.

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Checked example

An advertisement costing 600 yuan supports 100 sales at one scale and 300 at another. Marketing cost per sale = advertising cost divided by sales: first 600/100 = 6 yuan, later 600/300 = 2 yuan.

A new local supplier can reduce delivery costs for several firms: an external economy. One firm's bulk-purchase discount instead arises from its own buying scale: an internal purchasing economy.

Larger buying scale does not guarantee a discount, and financing depends on risk as well as size. Product diversification spreads some risks but adds management demands.

Name the actual cost mechanism. A list of six economy labels without showing how average cost falls is not an explanation.

■ 1.2.3(a) · Cost, revenue and profit measures

A craft workshop sells 150 boxes at 12 yuan each. Its fixed cost is 450 yuan and variable cost is 5 yuan per box.

A price higher than unit variable cost does not by itself establish a profit.

Fixed costs do not change with output over the relevant period/range. Total variable cost changes with output; with constant unit variable cost, TVC = unit variable cost × Q. Total cost TC = TFC + TVC.

Total revenue TR = P × Q; average total cost AC = TC/Q; profit = TR − TC. Keep totals in currency and averages in currency per item.

Checked example

Known: Q = 150, P = 12, TFC = 450 and unit VC = 5. TVC = 5 × 150 = 750 yuan; TC = 450 + 750 = 1200 yuan.

TR = 12 × 150 = 1800 yuan; AC = 1200/150 = 8 yuan per box; profit = 1800 − 1200 = 600 yuan. The margin above variable cost first helps cover fixed costs.

Do not subtract average cost from total revenue: their units differ. At zero output, TC can still include fixed cost, but TC/Q is undefined.

Fixed does not mean unchanged for ever: rent or capacity can change when the period or scale changes. Distinguish the accounting period before interpreting a cost.

■ 1.2.6(d) · Increasing a wage floor

A wage floor rises again after its first introduction. More workers offer labour at the higher wage, but employers in the supplied schedule want fewer hours.

The size of the change depends on the response of both sides.

In the competitive model, a binding floor constrains wages above equilibrium. Raising it moves along existing labour-demand and supply schedules; it does not itself shift those curves.

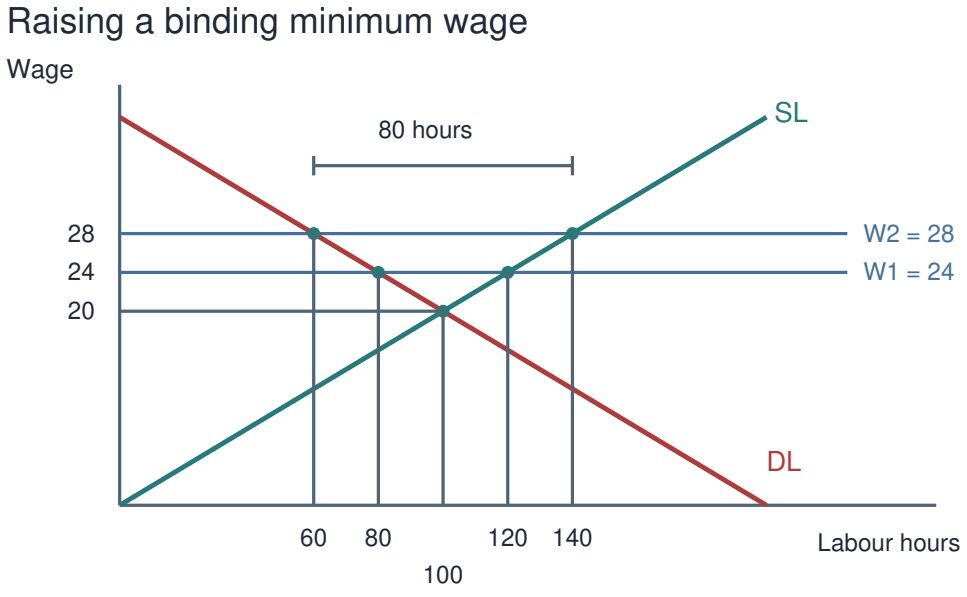
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Retained workers can earn more per hour, while jobs or hours may change. Responsiveness, productivity, prices, compliance and staff retention matter when evaluating the actual result.

Checked example

At equilibrium W = 20, Qd = Qs = 100 hours. At W1 = 24, Qd = 80 and Qs = 120: excess supply = 40 hours. At W2 = 28, Qd = 60 and Qs = 140: excess supply = 80 hours.

In this supplied model, employed hours fall from 80 to 60 and hourly pay rises. The wage bill changes from 24 × 80 = 1920 to 28 × 60 = 1680 yuan; a higher hourly rate does not guarantee a higher total wage bill.



A further increase: hours employed 80 → 60; excess supply 40 → 80.

The schedule is illustrative, not a forecast for every labour market. If demand is less responsive, employers may reduce hours less; improved retention or productivity can alter their costs.

Evaluate enforcement and workers outside coverage. Hours offered, hours employed and the number of people unemployed are distinct measures.

■ 2.1.1(a) · Growth, GDP and living standards

A town produces more goods, but its population also grows and its river becomes dirtier.

More output does not tell us everything about how residents live.

GDP measures the value of final goods and services produced within an economy during a period. Real GDP removes the effect of price changes; economic growth is an increase in real output.

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GDP per person divides output by population. Neither measure reveals income distribution, unpaid work, leisure, health or environmental damage. A country can grow while some households remain poor.

Checked example

Fictional real GDP rises from 100 million to 105 million: growth = (105−100)/100 × 100 = 5%. Population rises from 10000 to 10500. Real GDP per person stays 10000, since 105000000/10500 = 10000.

More production may create jobs and reduce poverty if incomes reach poorer households. Investment in productive equipment can raise future capacity. Stronger spending can also raise prices near capacity; energy use and waste may damage the environment.

Growth from using idle resources differs from an increase in productive potential. A higher GDP need not mean every resident is better off.

Compare real output per person, employment, distribution and environmental evidence. Avoid adding final products and their intermediate inputs twice.

2.1.1(a) · Reading the economic cycle

A furniture factory first runs overtime, then receives fewer orders, then lays off workers. Later it recruits again.

The economy can move through a cycle rather than grow smoothly.

A boom has high activity; a downturn means activity is weakening. A recession is a significant period of falling economic activity; two consecutive quarters of falling real GDP is a common practical indicator. Recovery is renewed growth after the low point.

Falling orders can reduce labour demand and raise cyclical unemployment. Recovery can reverse this. Demand-driven inflationary pressure often rises near capacity in a boom and weakens in a downturn.

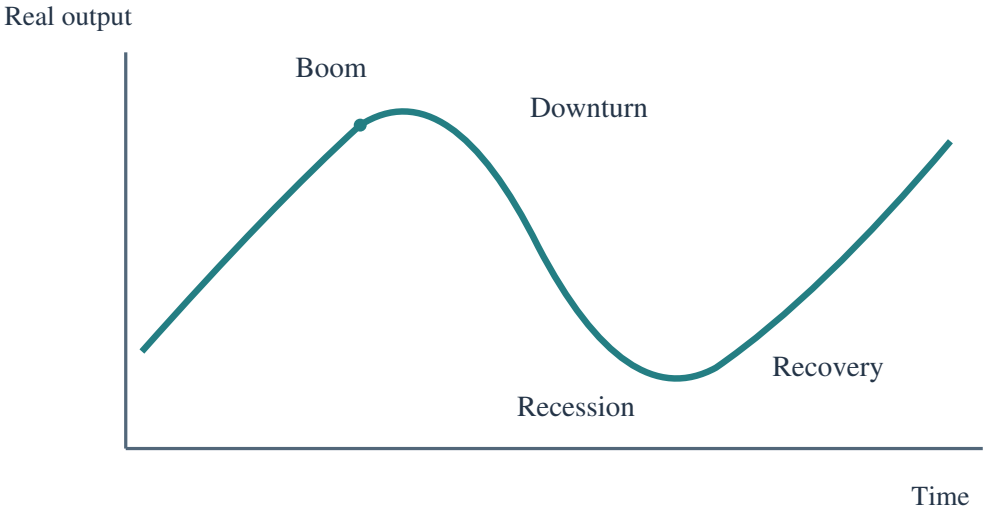
Checked example

A fictional quarterly real-output index moves 100, 104, 102, 99, 101. Growth is 4%, then about −1.92%, then about −2.94%, then about 2.02%.

The two falls form a recession under the common two-quarter indicator; 99 to 101 is recovery. Output is still below the earlier 104 peak. An economy can therefore recover while unemployment remains above its boom level.

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The economic cycle: a schematic path



Rising again does not mean all lost output or jobs are restored.

A slowing positive growth rate is not the same as falling output. Recovery need not immediately restore all lost jobs.

Inflation can remain high during a downturn if production costs rise. The diagram describes real output, not a guaranteed path for every price or worker.

■ 2.1.1(b) · Inflation, deflation and purchasing power

A family's shopping basket costs more, while a café replaces its printed menus.

The consequences of inflation include real purchasing power and costs of adjusting to price changes.

Inflation is a sustained rise in the general price level; deflation is a sustained fall. CPI tracks the cost of a weighted consumer basket. Inflation rate = (new CPI−old CPI)/old CPI × 100.

Demand-pull inflation can follow spending rising faster than available output. Cost-push inflation can follow higher energy, wages or imported input costs. One expensive product alone does not establish general inflation.

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Checked example

CPI rises from 120 to 126: inflation = $6/120 \times 100 = 5\%$. A wage rises from 2000 to 2060, or 3%. Real wage change is approximately $3-5 = -2\%$; exactly, purchasing-power ratio = 1.03/1.05, a fall of about 1.90%.

Menu costs are costs of changing prices. Shoe-leather costs are extra effort managing money balances. Uncertain future costs/prices can weaken confidence and investment; domestic prices rising faster than foreign prices can reduce export competitiveness.

Central banks may raise interest rates to restrain spending and inflation; this can reduce investment and employment. Cost-push inflation can combine higher prices with weaker output and higher unemployment.

Borrowers and savers experience different effects, especially when rates fail to adjust. Lower inflation means prices rise more slowly; it is not deflation. CPI weights may not match every household's basket.

■ 2.1.1(c) · Unemployment: measurement and causes

A graduate is searching for a first job; a resort closes after summer; a factory worker loses a job after automation.

The same absence of paid work can have different causes.

Unemployment concerns people without work who are available and seeking work under the ILO approach. The labour force contains employed and unemployed people; economically inactive people are outside it.

Cyclical unemployment follows weak demand; structural unemployment follows a mismatch of skills or location; seasonal unemployment follows regular seasonal demand. Frictional unemployment occurs while moving between jobs. Voluntary unemployment describes choosing not to accept available jobs at prevailing conditions; inactivity and measured unemployment must still be distinguished.

Checked example

A fictional population has 900 employed, 100 unemployed and 200 economically inactive people. Labour force = 900+100 = 1000; unemployment rate = $100/1000 \times 100 = 10\%$, not 100/1200.

Lost jobs can reduce output and waste available labour. Household incomes and confidence fall, poverty may rise, tax receipts can fall and benefit spending rise. Firms may invest less because sales expectations weaken; prolonged unemployment can damage skills and social well-being.

Do not count every student or retiree as unemployed. The denominator is the labour force, not total population.

Diagnose the cause before choosing policy: stronger spending may help cyclical job loss but may not give an automated worker new skills. Many real cases have more than one cause.

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■ 2.1.1(d) · The current account and trade balance

A country sells tourism services abroad but imports more machinery than it exports goods.

A goods deficit can coexist with a services surplus.

The current account records trade in goods and services, primary income and current transfers with the rest of the world. Goods are sometimes called visibles; services, invisibles. A deficit means current-account debits exceed credits; a surplus reverses that.

Domestic and foreign prices, product quality and the exchange rate affect export/import demand. A cheaper domestic currency can make exports cheaper abroad and imports dearer at home, but quantities need time to respond.

> **Checked example**
>
> Fictional exports of goods are 80 and imports 110: goods balance = −30. Service exports are 40 and imports 25: services balance = +15. Net primary income is −3 and net transfers +2.
> Current-account balance = −30+15−3+2 = −16. The trade balance alone is −15.
> Buying imports is a spending leakage from domestic production; low export demand can weaken domestic output.
> A deficit must be matched by external financing or reserve movements across the balance of payments, allowing for measurement discrepancies. Difficulty financing it can create pressure on reserves or the currency. Higher foreign prices can raise imported inflation.
> A deficit is not automatically harmful: machinery imports may build future capacity. Its causes, persistence and financing matter. A price change does not guarantee an improved balance if demand responds little.

■ 2.1.1(e); 2.1.2(d) · Environmental objectives and public provision

A delivery depot creates engine noise, exhaust fumes, litter and contaminated runoff.

A single pollution label can hide different harms and different remedies.

Visual pollution includes litter or damage to a landscape; noise can disturb neighbours; air pollution harms air quality; water pollution contaminates waterways. Business activity can cause several at once.

A tax changes the cost of a harmful activity; a subsidy helps finance cleaner action. Legislation authorizes rules; regulation specifies requirements. Fines penalize breaches; pollution permits limit allowed emissions. Public parks can preserve green space and provide recreation, but do not automatically clean polluted water.

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Checked example

The depot can install a runoff filter costing 5000 yuan. A 2000-yuan subsidy leaves 3000 to fund. A rule requiring safe discharge directly targets the water harm; inspections and credible fines support it.

A park may improve access to green space, while a night-delivery restriction targets noise. Match the chosen tool to its mechanism instead of treating each policy as interchangeable.

Regulation may achieve a clear minimum but impose costs and need monitoring. A fine's effect depends on detection as well as size. Permit trading requires measurable emissions and an enforced cap.

Parks need land and maintenance spending, with an opportunity cost. Compare environmental gains with implementation costs and effects on output, workers and residents.

■ 2.1.1(f) · Poverty, inequality and redistribution

Two households can afford food and shelter, but one has much less income than the community norm.

Poverty and unequal income are related concepts, with different measurements.

Absolute poverty means insufficient resources to meet basic needs. Relative poverty means resources well below a society's usual living standard. Income inequality describes uneven distribution across people or households.

Reducing poverty can meet basic needs, raise living standards and respond to ethical concerns. Progressive taxes take a larger proportion of higher incomes. Benefits transfer income; education and healthcare can improve future earning capacity and access to work.

Checked example

Under a fictional tax rule, the first 10000 yuan is untaxed and income above that is taxed at 20%. Income of 20000 pays 2000, an average rate of 10%. Income of 40000 pays 6000, an average rate of 15%.

A targeted benefit may immediately support food and rent. Training takes longer but can improve employability. Neither works well if eligible households cannot access it.

A higher tax payment alone does not prove progressivity; compare tax as a percentage of income. Benefits need funding and effective targeting; tax/benefit withdrawal can affect work incentives.

Education and healthcare reduce barriers but cannot guarantee jobs. State the poverty criterion rather than applying one fictional threshold to every country.

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■ 2.1.2(a) · Fiscal choices and budget balances

A government repairs schools and raises a sales tax.

Spending and revenue decisions affect both public services and private spending power.

Fiscal policy uses government expenditure and taxation to influence the economy. Direct taxes apply directly to incomes or profits; indirect taxes apply to spending or transactions. Spending includes health, education, infrastructure, defence and benefits.

A budget deficit means expenditure exceeds revenue; a surplus means revenue exceeds expenditure. More spending or lower taxes can increase total demand; the outcome depends on spare capacity, imports and household/business responses.

> **Checked example**
>
> Fictional revenue is 90 billion and expenditure 100 billion: deficit = 10 billion. Cutting spending to 95 while revenue stays 90 reduces the deficit to 5; it does not create a surplus.
>
> A school-building programme creates demand for builders and materials and can reduce cyclical unemployment. If resources are already fully used, extra demand may raise prices. Imported materials create demand abroad too.
>
> Borrowing finances a deficit but creates debt-servicing obligations. A surplus can reduce borrowing or debt, while tax rises or spending cuts can weaken demand and jobs.
>
> Distribution depends on which taxes and services change. A deficit is an annual flow; outstanding government debt is a stock. Do not equate every deficit with irresponsible policy.

■ 2.1.2(b) · Interest rates and monetary transmission

A shop delays buying new equipment when a loan becomes more expensive. A saver receives a better return.

An interest-rate change affects borrowers and savers differently.

Monetary policy influences monetary conditions, including central-bank policy interest rates. Interest is the cost of borrowing or return on saving, usually expressed as a percentage for a stated period.

Higher rates can raise loan costs, encourage saving and reduce household consumption and business investment. Lower rates can work in reverse. Changes in spending affect output, jobs and inflation; commercial lending conditions need not change instantly or equally.

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Checked example

For a one-year interest-only illustration, a 10000-yuan loan at 4% costs 400 yuan in interest. At 6%, it costs 600: 200 more. This excludes fees, repayment schedules and compounding.

A rate rise may discourage a financed equipment purchase and weaken demand. Central banks can also buy financial assets to influence liquidity and financial conditions, potentially lowering longer-term borrowing costs and encouraging spending. Confidence matters: cheaper credit may not persuade a pessimistic firm to invest. Existing fixed-rate loans may not reprice immediately. Monetary tightening can reduce inflationary pressure while raising unemployment.

Asset purchases are not an automatic gift of spendable income to every household. Outcomes depend on financial markets and whether banks, firms and households respond.

■ 2.1.2(c) · Supply-side capacity and implementation

A region has jobseekers but poor transport and few relevant qualifications.

More consumer spending alone may not solve the barriers preventing production.

Supply-side policies aim to raise productive capacity or productivity. Education and training build skills; infrastructure connects workers, suppliers and markets; regional support can attract activity to high-unemployment areas.

Privatization changes ownership and may strengthen efficiency incentives. Deregulation removes some rules and barriers. Lower business taxes can encourage investment; lower income-tax rates may improve incentives to work. Each needs a causal explanation, not an assumption of success.

Checked example

A training programme increases output from 800 to 1000 units with the same 200 worker-hours. Productivity rises from 4 to 5 units per hour, or 25%.

A reliable bus route may help trainees reach employers. A business-tax reduction only raises capacity if firms invest productively; money distributed to owners does not by itself install equipment.

Training and infrastructure need funds and time. Poorly matched courses may not address vacancies. Regional grants can move existing jobs rather than create additional national employment.

Privatization does not automatically create competition; deregulation can remove valuable safeguards. Work responses depend on tax/benefit rules and constraints such as childcare. Improved capacity can support growth with less inflation, but success must be evidenced.

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■ 2.1.3(a) · Judging policy trade-offs

A town wants jobs, stable prices and cleaner air. A new factory may help one aim while harming another.

A useful policy judgement explains the conditions, affected groups and period.

Demand stimulus may reduce cyclical unemployment but raise inflation near capacity. Growth can raise prices if demand outruns output, while capacity-building growth can reduce that pressure.

Higher output can create pollution unless production becomes cleaner. Restricting harmful activity can protect the environment but reduce some jobs or output. Domestic inflation above foreign inflation can reduce export competitiveness and worsen the current account, other factors unchanged.

> **Checked example**
>
> Fictional policy A raises demand when factories have idle capacity: output and employment can rise with less price pressure. Policy B raises the same demand when factories are fully used: price pressure is more likely.
>
> An energy-efficiency programme may lower emissions per unit and costs, easing the growth/environment conflict. But total emissions can still rise if output grows faster than emissions per unit fall.
>
> Do not treat every conflict as inevitable. Time matters: spending on training is demand now and possible capacity later. Foreign demand, exchange rates and inflation abroad also influence the current account.
>
> A judgement should name the priority, explain a mechanism, identify a cost and state a condition under which the policy works better than an alternative.

■ 2.2.1(a–c) · Globalization: connections and unequal effects

A small maker sells lamps abroad through an online platform, but also competes with imported lamps.

The same connection can open a market and strengthen competition.

Globalization is growing integration and interdependence between economies. Lower tariffs and quotas reduce barriers; cheaper transport makes shipments viable; cheaper communication connects suppliers and customers. Multinational firms coordinate activity across countries.

Consumers may gain lower prices and more choice; producers may gain markets and cheaper inputs. Workers in expanding industries may gain jobs, while traditional industries can close. Cross-border production and transport also affect the environment.

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Checked example

A fictional lamp costs 30 yuan to make. An old shipment cost of 20 gives a delivered cost of 50. A new shipment cost of 5 reduces it to 35 before other charges.

The lower delivery cost can make exports viable at a price of 40. It also makes foreign competition easier. A worker's outcome depends on which industry expands and whether skills transfer to new jobs.

Lower costs do not guarantee all gains reach consumers; competition and market power matter. Aggregate living standards can rise while particular regions lose jobs. More production can raise emissions; cleaner technology transfer can work in the other direction. Evaluate named affected groups and mechanisms rather than declaring globalization good or bad for everyone.

■ 2.2.1(d) · Multinationals and foreign direct investment

A foreign company opens a factory and trains local technicians. A nearby shop merely buys foreign goods.

Owning productive activity abroad differs from trading with an overseas supplier.

An MNC controls productive operations in more than one country. FDI is investment establishing a lasting interest and influence in an enterprise abroad, rather than just purchasing its products.

Firms may seek customers, natural resources, cheaper materials, scale economies and lower transport/communication costs. Host economies can gain jobs, infrastructure, skills, capital and taxes, but may face environmental damage, tax avoidance and profits moved abroad.

Checked example

A fictional foreign investor funds machinery worth 2 million yuan and employs 40 local workers. Annual profit is 300000; it reinvests 100000 locally and sends 200000 to its overseas owners.

The machinery and jobs are potential host benefits. The 200000 profit repatriation is an external income flow, not proof that the entire investment has been harmful. Compare wages, taxes, training and environmental effects too.

Job quantity alone says little about pay, safety or stability. Tax contribution depends on rules, compliance and incentives, not the mere existence of the factory.

Imported components can limit links with domestic suppliers. A credible judgement compares the investment with the likely alternative and uses actual evidence; the fictional figures are not a real-company study.

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■ 2.2.2(a–b) · Free trade and reasons for protection

A bakery can buy cheaper imported flour, but a domestic mill loses customers.

One import can benefit input users and consumers while harming a competing producer.

Free trade reduces restrictions on international exchange. It can lower consumer prices, widen choice, reduce input costs and open export markets. Domestic firms facing foreign competition may contract, causing unemployment during adjustment.

Protection may be justified by concerns about dumping, employment, infant industries, tax revenue, unsafe products, a current-account deficit or retaliation. An infant-industry argument seeks temporary time to develop competitiveness, not permanent shelter without improvement.

Checked example

Fictional flour costs 12 yuan per kilogram domestically and 8 as an import. Using 100 kilograms gives a bakery a potential input saving of $(12-8) \times 100 = 400$ yuan. The mill faces lower demand, while the bakery may expand or reduce prices. A safety concern needs a credible product standard and evidence; banning every competitor is not automatically a targeted safety response.

Dumping concerns an unusually low export price relative to an appropriate comparison, not every cheap imported product. Protected firms may become less efficient if competition is removed.

Retaliation can reduce exporters' markets and widen conflict. A protection judgement should state its aim, duration, likely winners and losers, and why a targeted adjustment policy might or might not work better.

■ 2.2.2(c) · Tariffs, quotas and production subsidies

Domestic growers ask for protection against imported berries. The government considers a tariff, an import limit or a payment per home-grown box.

The tools change incentives and public finances differently.

A tariff is a tax on imports; a quota limits their quantity. With an available world supply, domestic demand minus domestic supply is imports at the world price. A tariff can raise the domestic price, reduce consumption and increase domestic production.

A quota can also raise price by restricting imports, but does not automatically create tariff revenue. A domestic production subsidy lowers producers' net costs and can expand domestic output, but uses public funds.

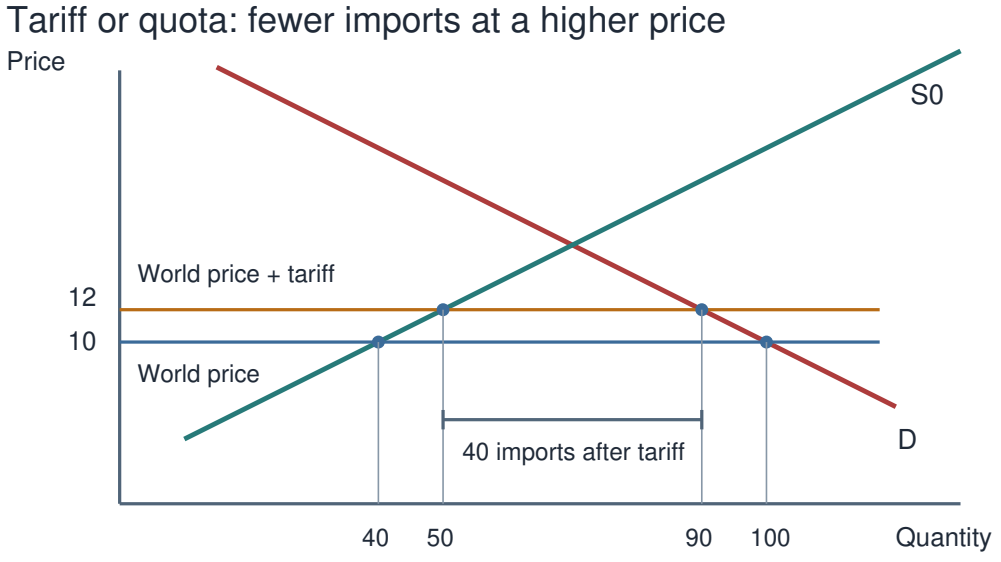
Checked example

In a fictional small-country market, at world price 10, domestic demand is 100 boxes and domestic supply 40: imports = 60. With a fully passed-on tariff of 2, price is 12, demand 90 and supply 50: imports = 40. Tariff receipts = $2 \times 40 = 80$ yuan.

A quota of 40 can produce the same price in this schedule if demand/supply conditions

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are unchanged. A producer subsidy of 2 instead keeps the available world price at 10: if home supply rises to 50, imports fall to 50 and government spending is $2 \times 50 = 100$.



Quota of 40 gives the same price here, but not automatic tax receipts.

These are stated small-country assumptions, not guaranteed outcomes under market power or changing world prices. A subsidy paid to home producers differs from an export subsidy.

Tariffs raise input costs for import users and can provoke retaliation. Quota rents depend on licence allocation; subsidy funding has an opportunity cost. Show the particular market and incidence rather than assuming identical winners.

■ 2.2.2(d–e) · Trading blocs and the WTO

A seller inside a trading bloc gains easier access to other members. An outside seller may still face border duties.

Integration among members can change competition faced by non-members.

A trading bloc gives members preferential access under an agreement. A free-trade area reduces internal trade barriers; a customs union also has a common external tariff. The EU customs union is a named example.

Members may gain larger markets and lower input prices, while firms face stronger competition. Non-member suppliers may lose sales if preferences favour member products; they may also sell more to a growing bloc economy.

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Checked example

In a fictional bloc choice, a non-member product costs 8 before a tariff of 3: delivered price 11. A member product costs 10 without the internal tariff. A buyer switches to the member although its production cost is higher.

The WTO provides a framework for negotiating trade agreements, monitoring implementation and resolving disputes about commitments. It does not run every member's customs service or guarantee an instant end to trade disagreements.

Preferential access can create trade by replacing costly domestic production, or divert purchases away from a lower-cost outside supplier. Evaluate the actual tariff and cost comparison.

Official references: EU customs union and WTO monitoring, disputes. Institutional roles checked 2026-10-02; no current dispute outcome is claimed.

■ 2.2.2(f) · Reading trade patterns without stereotypes

Two fictional countries export different product mixes. One relies heavily on crops, while the other sells manufactured goods and services.

A development label alone does not tell us every country's pattern.

Trade patterns describe the goods/services traded, partners and composition of flows. Resource endowments, skills, technology, infrastructure, income and investment help explain them. Some developing economies depend on primary exports; others export substantial manufactured goods or services.

More developed economies often trade sophisticated manufactures and services, but can also export natural resources. Diversification can reduce reliance on one market or volatile product price; it requires capability and access.

Checked example

Fictional A exports 60 million in primary goods, 30 in manufactures and 10 in services: primary share $= 60/100 \times 100 = 60\%$. B exports 20, 120 and 60 respectively: primary share $= 20/200 \times 100 = 10\%$.

If A's primary export value rises to 66 while total exports rise to 120, its primary share falls to 55% despite a higher primary-export value. Changes in price can alter export value without a matching quantity change.

These are illustrative economies, not statistics for a real country. Use dated country data before making a real-world comparison. A single export share cannot rank quality of life.

Development, policy, FDI and exchange rates can change the pattern. Ask whether values are nominal, which services are included, and whether the same definitions and periods are used.

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■ 2.2.3(a–b) · Exchange-rate quotation and currency markets

An importer needs foreign currency to pay a supplier. An overseas tourist needs local currency to spend here.

These transactions create different sides of a currency market.

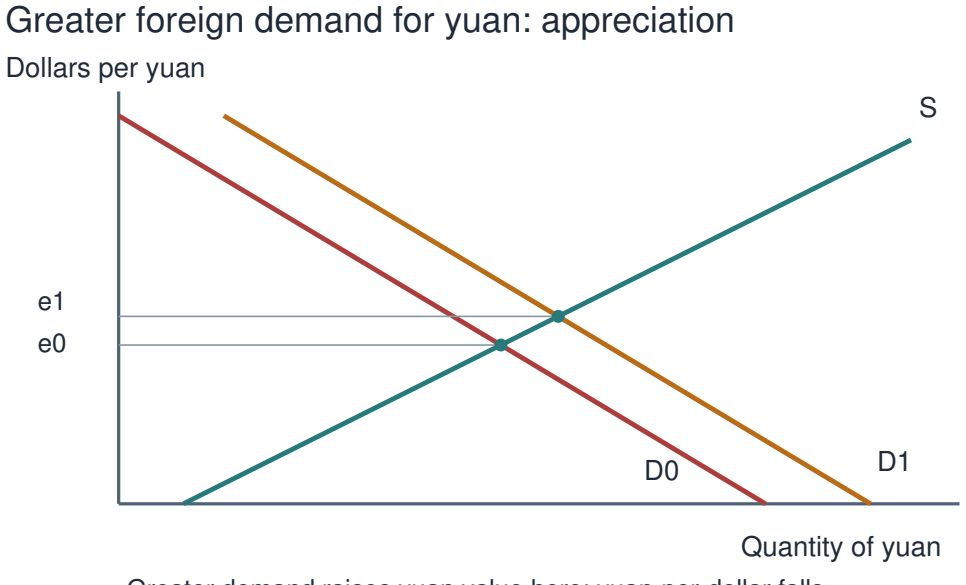
An exchange rate is the price of one currency in another. Always state the quotation: 7 yuan per US dollar means one dollar costs seven yuan. Dollars to yuan multiply by 7; yuan to dollars divide by 7.

In a market for yuan priced in foreign currency, foreign demand for Chinese exports can raise demand for yuan; Chinese demand for imports can raise its supply. Higher relative interest returns may attract demand, while speculative expectations can also shift demand or supply. Use the currency named on the quantity axis.

Checked example

At a fictional 7 yuan per dollar, a 100-dollar import costs 700 yuan; 1400 yuan buys 200 dollars. In a separate schematic market for yuan quoted in dollars per yuan, greater demand for yuan raises its dollar price with supply unchanged.

A fall from 7 to 6 yuan per dollar means one yuan buys more dollars: the yuan appreciates. The two quotations move in opposite directions; labels prevent an apparent contradiction.



Greater demand raises yuan value here; yuan-per-dollar falls.

Relative rates, expected currency changes and risk affect capital flows; a domestic rate rise alone does not guarantee appreciation. Imports/exports and speculation may shift both sides.

All rates here are fictional teaching rates, not current market quotations. Do not place yuan per dollar on a diagram whose quantity axis is yuan without explaining

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the reciprocal market.

■ 2.2.3(c–d) · Currency changes, prices and the current account

A currency weakens. Exporters hope foreign customers buy more, while importers face higher local costs.

A price advantage does not guarantee an improved trade balance.

Appreciation and depreciation are rises and falls in a currency's market value. Revaluation and devaluation are official upward/downward changes to a fixed or managed parity.

A depreciation makes imports dearer in domestic currency and exports cheaper abroad when their original-currency prices stay unchanged. Appreciation reverses those effects. Demand responses depend on substitutes, necessities, contracts and time.

> **Checked example**
>
> Use fictional rates: the yuan depreciates from 7 to 8 yuan per dollar. A 100-dollar import rises from 700 to 800 yuan. An export priced at 560 yuan falls from 80 dollars to 70 dollars for the foreign buyer.
> Import quantity may fall and export quantity rise, but not instantly. If an essential imported input has very inelastic demand, its expenditure can rise. Export receipts depend on both foreign price and quantity; the current account also includes other flows.
> Do not confuse a lower foreign-currency export price with a lower domestic-currency price. Pass-through may be incomplete if firms change mark-ups.
> Appreciation can cheapen imported inputs and reduce imported inflation, yet weaken price competitiveness of exports. Product quality and foreign incomes also matter. Judge the current-account effect using values and responsiveness, not the direction of the currency alone.

■ 2.2.2(c) · A domestic subsidy in an open market

A government pays domestic berry growers 2 yuan for each box produced. Foreign suppliers still offer berries at 10 yuan.

Supporting home output need not raise the price paid by consumers in this model.

A per-unit production subsidy shifts home supply right by reducing the net cost of supplying each unit. With unrestricted imports at a fixed world price, buyers can still purchase at that price.

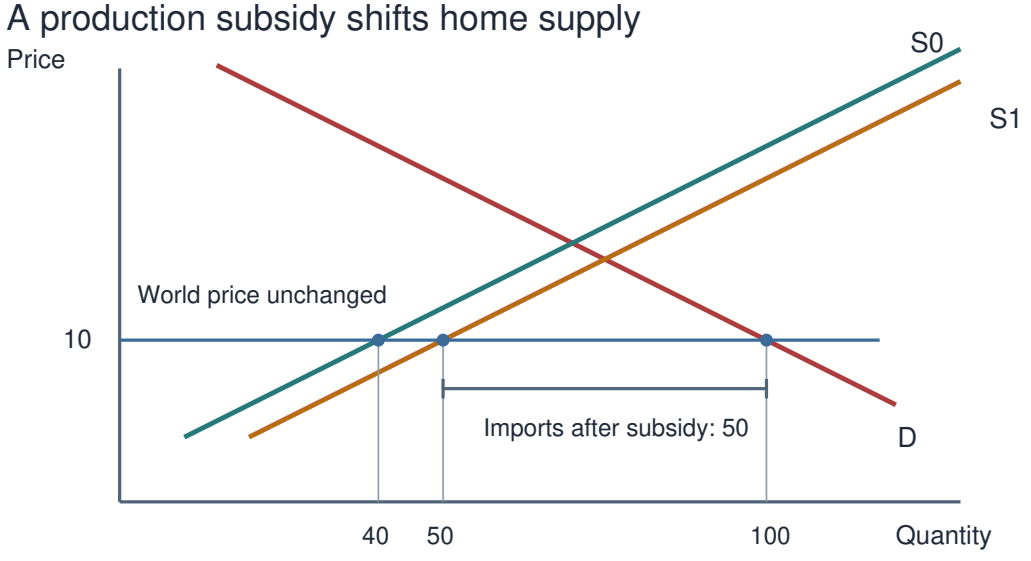
Home producers receive the market price plus the subsidy. Imports meet the gap between domestic demand and subsidized domestic supply. This differs from a tariff that raises the domestic buyer's price.

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Checked example

In the stated small-country case, price stays 10 and demand stays 100 boxes. Home supply rises from 40 to 50 with the subsidy. Imports fall from 60 to 50.

The government pays 2 × 50 = 100 yuan. Producers receive 12 per box including the subsidy, while consumers pay 10. The policy supports home output without the tariff's price rise under these assumptions.



Home output rises by 10; public spending is 2 × 50 = 100 yuan.

The public payment uses tax revenue or borrowing and has an opportunity cost. Some payments support output that would have been produced anyway.

World price availability, competition and unchanged demand are assumptions. An import quota, transport barrier or large-country price response could change the result. Do not conclude that a subsidy is costless because consumers' price stays unchanged.

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