

Cambridge AS & A Level · Economics 9708 · Notes

# The reasons for international trade AS

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Read first: [Scarcity, choice and opportunity cost](#), [Production possibility curves](#), [Price elasticity, income elasticity and cross elasticity of demand](#)

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## What you need to know

By the end of this topic you should be able to:

1. **Tell absolute advantage from comparative advantage.** A country has an absolute advantage in a good when it can make more of it than another country with the same resources. It has a comparative advantage when it can make the good at a lower opportunity cost.
2. **Explain the benefits of specialisation and free trade** (trade liberalisation, which means removing barriers such as tariffs and quotas), and use the **trading possibility curve** to show how trade lets a country consume beyond its production possibility curve.
3. **Explain exports, imports and the terms of trade:** how the terms of trade are **measured**, what **causes** them to change, and what **impact** a change has on the economy.
4. **Explain the limitations** of the theories of absolute and comparative advantage: the assumptions behind them and why real trade may not match them.

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## Understand it

### Why countries trade

**Exports** are goods and services sold to other countries; **imports** are goods and services bought from them. Countries trade for three broad reasons:

- **Some goods cannot be made at home**, or only at a huge cost (oil, tropical fruit, rare metals).
- **Other countries are better at making some goods**, because they have more or better resources: fertile land, a skilled workforce, cheap energy, advanced technology.
- **Specialising and trading raises output and living standards** in both countries, even when one of them is better at making everything. This last reason is the principle of comparative advantage, and it is the heart of the topic.

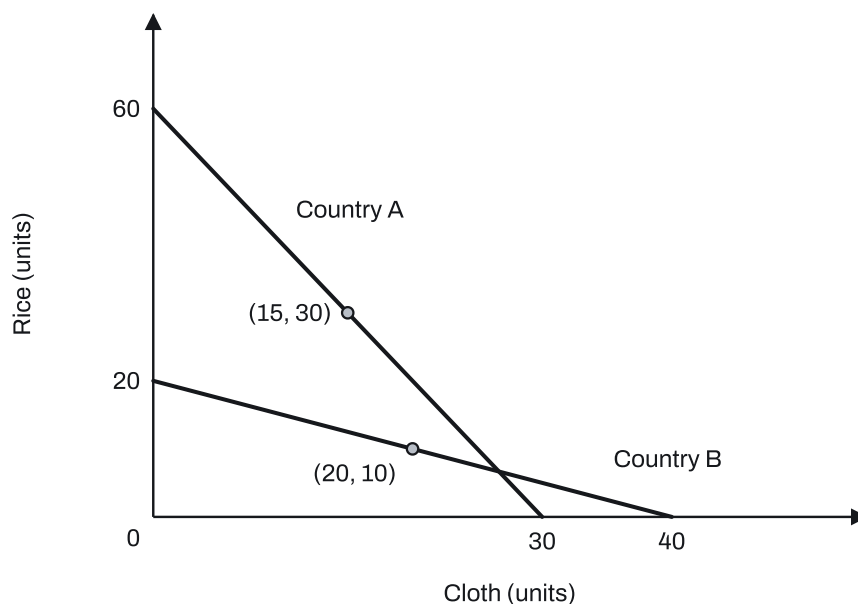
## Absolute and comparative advantage

Take two countries, A and B, that each make rice and cloth. If each puts **all** its resources into one good:

|           | Rice (units) | Cloth (units) | Opportunity cost of 1 cloth | Opportunity cost of 1 rice |
|-----------|--------------|---------------|-----------------------------|----------------------------|
| Country A | 60           | 30            | 2 rice                      | 0.5 cloth                  |
| Country B | 20           | 40            | 0.5 rice                    | 2 cloth                    |

- **Absolute advantage** compares **output from the same resources**. A makes more rice ( $60 > 20$ ), so A has the absolute advantage in rice; B makes more cloth ( $40 > 30$ ), so B has the absolute advantage in cloth.
- **Comparative advantage** compares **opportunity costs**. To make 1 more cloth, A gives up 2 rice but B gives up only 0.5 rice, so B has the comparative advantage in cloth. To make 1 more rice, A gives up 0.5 cloth and B gives up 2 cloth, so A has the comparative advantage in rice.

To find an opportunity cost from a table of outputs, divide: the opportunity cost of 1 cloth for A is  $60 \div 30 = 2$  rice. The opportunity cost of one good is always the reciprocal (one over) of the other, so a country with the comparative advantage in one good **cannot** also have it in the other.



On a diagram, straight-line PPCs mean **constant** opportunity costs. The **slope** of each line is the opportunity cost: the steeper line belongs to the country for which the good on the horizontal axis (cloth) is dearer, so that country has the comparative advantage in the good on the vertical axis (rice). Whichever line reaches **further out on an axis** has the absolute advantage in that good.

## Specialisation raises world output

Suppose that, before trade, each country spends half its resources on each good: A makes 30 rice and 15 cloth; B makes 10 rice and 20 cloth. World output is **40 rice and 35 cloth**.

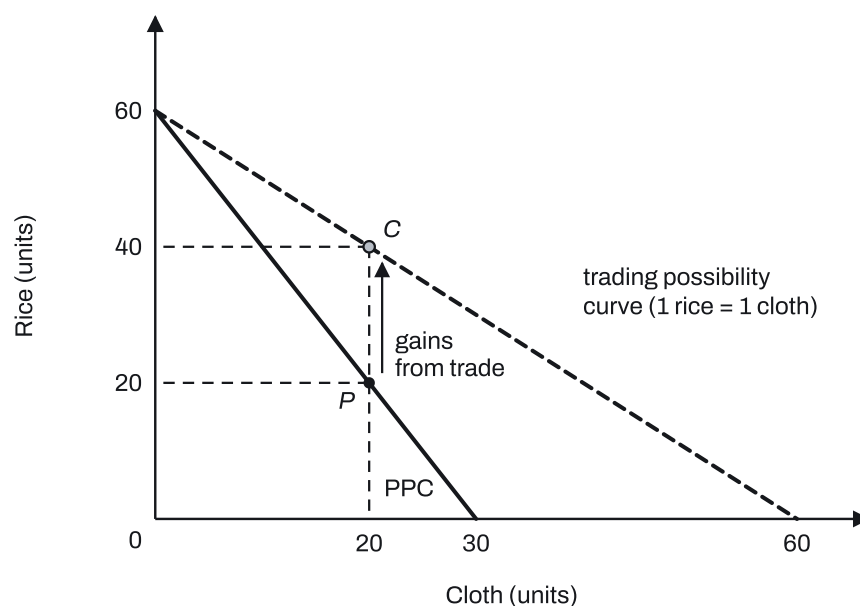
Now each country specialises in its comparative-advantage good: A makes only rice (60) and B only cloth (40). World output is **60 rice and 40 cloth**: 20 more rice and 5 more cloth from the **same resources**. The extra output is the gain from specialisation, and trade lets both countries share it.

**Even when one country is better at both goods**, the gain is still there. Suppose A could make 120 rice or 60 cloth, and B still 20 rice or 40 cloth. A has the absolute advantage in both, but cloth still costs A 2 rice and B only 0.5 rice. With half-and-half production the world makes 70 rice and 50 cloth. If B makes only cloth (40) and A makes the other 10 cloth plus  $120 - 2 \times 10 = 100$  rice, the world has **100 rice and 50 cloth**: 30 more rice and the same cloth. (If A made only rice, cloth would fall to 40, so with absolute advantage in both, one country may only specialise partly.) What matters for trade is the **difference in opportunity costs**, not who is better at everything.

## The terms at which they trade, and the trading possibility curve

Both countries gain only if the rate at which they swap the goods lies **between** their two opportunity costs. Cloth costs A 2 rice and B 0.5 rice, so any rate between 0.5 and 2 rice per cloth benefits both. At 1 rice for 1 cloth, A pays 1 rice for cloth that would cost it 2 to make, and B gets 1 rice for cloth that cost it only 0.5 rice. At 3 rice per cloth, A would be better off making cloth itself.

The **trading possibility curve** shows every combination of the two goods a country can consume if it specialises and then trades at a given rate. For A, specialising in rice (60) and trading 1 for 1, the curve runs from 60 rice to 60 cloth. Its PPC runs only to 30 cloth.



- Without trade, if A wants 20 cloth it must give up 40 rice, leaving **20 rice** (point P).
- With trade, A keeps making 60 rice, exports 20 and imports 20 cloth, consuming **40 rice and 20 cloth** (point C): 20 more rice than at P.
- B, specialising in cloth (40), exports 20 cloth for 20 rice and consumes 20 rice and 20 cloth. Without trade, 20 cloth would leave B only  $20 - 0.5 \times 20 = 10$  rice, so B gains 10 rice.

Points outside a country's PPC are **unattainable by producing alone**; trade makes them attainable. That is how trade raises living standards. The opportunity cost of an extra unit of imports, for a specialised country, is the export good it must give up from its own consumption.

## Benefits of specialisation and free trade

**Free trade** means trade with no tariffs, quotas or other barriers; **trade liberalisation** is the process of removing them. The benefits examiners reward:

- **Higher world output** from the same resources, as in the example: resources are used where their opportunity cost is lowest, so **allocation is more efficient**.
- **Consumption beyond the PPC**: higher living standards, as on the trading possibility curve.
- **Lower prices and wider choice** for consumers: imports are cheaper, and goods that cannot be made at home become available.
- **Economies of scale**: firms selling to world markets produce more, so average costs fall.
- **More competition**: domestic firms facing imports must become more efficient and innovate; monopoly power is reduced.
- **Cheaper raw materials and components** for firms, which lowers their costs.
- **Spread of technology and ideas**, and access to foreign investment.
- **Growth and jobs in export industries**, and foreign currency to pay for essential imports.

**Multilateral** trade (with many countries) beats **bilateral** trade (just two), because each good can come from whichever country makes it at the lowest cost.

## Limitations of the theories

The theories rest on simplifying assumptions. Each one, when relaxed, is a limitation:

- **Two countries, two goods**. The real world has many of each; the principle still applies, but the gains are harder to predict.
- **Constant opportunity costs** (straight-line PPCs). In reality, as a country specialises it uses resources less suited to the good, so costs rise and the gains shrink.
- **No transport costs**. High transport costs can cancel out a comparative advantage, especially for bulky, cheap goods. Falling transport costs raise the gains.
- **Factors move freely between industries**. If workers and capital cannot switch from cloth to rice (they are **occupationally immobile**), specialisation brings unemployment instead of more output. Gains are smallest when factors are immobile between industries but can move between countries.
- **No trade barriers**. Tariffs, quotas and retaliation stop countries trading according to comparative advantage.
- **Full employment and perfect knowledge**, and an exchange rate that lets trade happen at a rate between the opportunity costs.

- **Comparative advantage is not fixed.** It changes with investment, education, technology and exchange rates. A rise in a country's exchange rate makes its exports dearer and can wipe out an export position; government policy (education, R&D, infrastructure) can create a new advantage.

Even when the theory holds, specialising has **costs**:

- **Over-specialisation:** an economy dependent on one or two exports is exposed to a fall in world demand, a fall in price, a bad harvest or a new competitor.
- **Strategic and political risk:** relying on imports of food, energy or defence goods is dangerous if supply is cut off.
- **Structural unemployment** in industries that close when imports arrive; the gains go to some groups and the losses to others.
- **Infant industries** in developing economies may never grow if they face established foreign firms at once.
- **Environmental costs** of transport and of intensive production for export.

One thing that is **not** a limitation: one country being better at making everything. That is exactly the case the theory of comparative advantage was built for.

## The terms of trade: measurement

The **terms of trade** compare the **average price of a country's exports** with the **average price of its imports**:

$$\text{terms of trade} = \frac{\text{index of average export prices}}{\text{index of average import prices}} \times 100$$

In the base year both indexes are 100, so the terms of trade are 100. If a year later the export price index is 115 and the import price index is 92, the terms of trade are  $\frac{115}{92} \times 100 = 125$ : each unit of exports now buys 25% more imports than in the base year. The terms of trade show the **purchasing power of a country's exports** in terms of imports. They have **no units**, because they are a ratio of two index numbers.

- A **rise** in the index is an **improvement** (favourable movement): export prices have risen **relative to** import prices. Fewer exports are needed to pay for the same imports.
- A **fall** is a **deterioration** (unfavourable movement): more exports are needed for the same imports.

Only **relative prices** count. Export prices up 10% and import prices up 4% gives  $\frac{110}{104} \times 100 = 105.8$ , an improvement even though both rose. Volumes, values and the balance of trade are **not** part of the terms of trade.

Percentage changes **do not simply subtract**: export prices up 5% and import prices down 5% gives  $\frac{105}{95} \times 100 = 110.5$ , not 110. A move from 105 to 110 is a  $\frac{110-105}{105} \times 100 = 4.8\%$  improvement.

**Terms of trade are not the balance of trade.** The balance of trade is the **value** of exports minus the **value** of imports (price × quantity). This is the most common error examiners report on this topic.

## Causes of a change in the terms of trade

Anything that changes export prices relative to import prices:

- **Changes in world demand or supply.** Higher world demand for a country's exports (or a cut in their world supply) raises their price: an improvement. Commodity exporters see large swings as world prices of oil, metals and crops rise and fall. A fall in demand for exports worsens the terms of trade.
- **Relative inflation.** If domestic inflation is higher than in trading partners, export prices rise faster than import prices: an improvement (though exports become less competitive). Inflation does not **definitely** change the terms of trade, because domestic prices can rise while export prices stay put.
- **The exchange rate.** An **appreciation** makes exports dearer in foreign currency and imports cheaper in domestic currency: an **improvement**. A **depreciation** worsens the terms of trade.
- **Productivity.** Higher productivity in export industries lowers costs and prices, so the terms of trade may worsen even though the country is more competitive.
- **Import prices.** A rise in the price of imported raw materials or energy worsens the terms of trade at once.
- **Trade policy.** An export subsidy lowers export prices (a deterioration).

## Impact of a change in the terms of trade

An **improvement** sounds good, and partly is:

- More imports for the same exports, so **higher living standards**.
- **Cheaper imported raw materials and components**, so less **cost-push inflation**.

But it depends on **why** the terms of trade improved and on the **price elasticity of demand (PED) for exports and imports**:

- If export prices rose because **world demand rose**, export volumes and revenue rise too: the current account improves and output and jobs grow. This improvement is good news.
- If export prices rose because of **domestic inflation** or an appreciation, exports are **less competitive**. If demand for them is **price elastic**, export volumes fall by more than prices rise and **export revenue falls**: an 8% rise in export prices with PED of  $-2$  cuts volume by 16%, and revenue to  $1.08 \times 0.84 = 0.9072$  of its old value, a fall of about 9.28%. The **current account worsens**, and jobs are lost in export industries. If demand is **inelastic**, revenue rises and the current account improves.

A **deterioration** works the other way: imports cost more exports, so living standards and import costs suffer, but exports become more competitive, and if demand for them is price elastic, export revenue, output and jobs rise.

So a change in the terms of trade is **neither always good nor always bad**. Ask: what caused it, how elastic are demand for exports and imports, and how large and lasting is the change?

## Key facts and formulas

There is no formula list in the 9708 exam, so everything here is "Learn it".

| Formula                                                                                                           | Status   |
|-------------------------------------------------------------------------------------------------------------------|----------|
| Terms of trade = $\frac{\text{index of average export prices}}{\text{index of average import prices}} \times 100$ | Learn it |
| Opportunity cost of 1 unit of X = $\frac{\text{units of Y given up}}{\text{units of X gained}}$                   | Learn it |
| Absolute advantage: more output from the same resources (or fewer inputs per unit)                                | Learn it |
| Comparative advantage: lower opportunity cost                                                                     | Learn it |
| Both countries gain if the exchange rate of the goods lies <b>between</b> their opportunity costs                 | Learn it |
| Percentage change = $\frac{\text{new} - \text{old}}{\text{old}} \times 100$                                       | Learn it |
| Revenue = price $\times$ quantity, so % change in revenue $\approx$ % change in price + % change in quantity      | Learn it |

When a table gives **inputs per unit** (hours or factor units to make one unit), the lower number is the more efficient country, and the opportunity cost of X is (inputs for X)  $\div$  (inputs for Y).

## How to do it

We tagged 89 questions for this topic (2021–2025): 67 Paper 1 multiple choice and 22 Paper 2 data-response and essay questions. For Paper 2 we count only the parts about this topic. 5 questions have parts of more than one type, so the counts add up to 96.

| Question type                                                                           | Questions |
|-----------------------------------------------------------------------------------------|-----------|
| Multiple choice: which price changes improve or worsen the terms of trade               | 14        |
| Multiple choice: absolute and comparative advantage from a table or PPCs                | 10        |
| Multiple choice: causes and effects of a terms of trade change                          | 9         |
| Written: evaluate the effects of a terms of trade change                                | 8         |
| Written: comparative advantage, specialisation and its limitations                      | 8         |
| Multiple choice: define or give the formula for the terms of trade                      | 8         |
| Multiple choice: reasons for trade, conditions for gains, limitations                   | 7         |
| Written: benefits of free trade against its drawbacks or protection                     | 7         |
| Multiple choice: define absolute and comparative advantage                              | 6         |
| Written: causes of a terms of trade change, with the formula                            | 6         |
| Multiple choice: world output after specialisation                                      | 5         |
| Multiple choice: a mutually beneficial exchange ratio, or the trading possibility curve | 5         |

| Question type                                              | Questions |
|------------------------------------------------------------|-----------|
| Multiple choice: calculate a terms of trade or price index | 3         |

## 1. Multiple choice: which price changes improve or worsen the terms of trade (14 questions)

1. **Look only at prices.** Cross out every mention of volumes, values, receipts and payments, or the balance of trade.
2. **Turn the changes into indexes** from 100: "rise by 5%" is 105, "fall by 10%" is 90.
3. **Divide** export index by import index. Above 100 (or higher than before) is an improvement.

### Variations you will meet:

- **"Prices of imports rise by less than prices of exports"** is an improvement; "value of imports rises less than value of exports" is a distractor about the balance of trade ([9708/11/O/N/24 Q30](#)).
- **A table with prices and volumes:** ignore the volumes. Export prices –10% and import prices –15% gives  $\frac{90}{85} \times 100 = 105.9$ , an improvement.
- **"Definitely":** only a pure change in relative prices is certain. Export prices up and import prices unchanged definitely improves the terms of trade; export prices +5% and import prices –5% definitely improves the **terms of trade**, but not the balance of trade or current account (that depends on PED).
- **An index series** such as 100, 97, 95: the terms of trade have **deteriorated**. You cannot tell what happened to export prices on their own.
- **An index falling (say 111.2 to 106.1):** export and import prices could both have risen, with import prices rising more.

## 2. Multiple choice: absolute and comparative advantage from a table or PPCs (10 questions)

1. **Check what the table shows.** Output from given resources (most questions): higher is better. **Inputs per unit** (hours, factor units): lower is better.
2. **Absolute advantage:** compare outputs good by good. One country can have it in both.
3. **Comparative advantage:** work out each country's opportunity cost of one good (divide), then compare. The lower opportunity cost has the comparative advantage in that good; the other country has it in the other good.
4. **Read each option word for word:** options mix "absolute" and "comparative", and which country.

### Variations you will meet:

- **Per-person outputs** with one country better at both: P makes 1000 Y or 1600 Z, Q makes 1500 Y or 2000 Z. Q has the absolute advantage in both. Y costs P  $\frac{1600}{1000} = 1.6$  Z and Q  $\frac{2000}{1500} = 1.33$  Z, so Q has the comparative advantage in Y and P in Z ([9708/14/M/J/25 Q24](#)).

- **Inputs per unit:** X needs 4 units for a tonne of wheat and 2 for a car; Y needs 8 and 6. Wheat costs  $X \ 4 \div 2 = 2$  cars and  $Y \ 8 \div 6 = 1.33$  cars, so Y has the comparative advantage in wheat ([9708/12/F/M/24 Q24](#)).
- **"What does the theory suggest?"** X makes 6 wheat or 2 steel (steel costs 3 wheat), Y makes 4 wheat or 1 steel (steel costs 4 wheat): X should produce only steel ([9708/11/O/N/24 Q26](#)).
- **Several workers or countries:** the greatest comparative advantage in biscuits goes to whoever gives up the fewest cakes per biscuit, the **highest biscuits ÷ cakes ratio** ([9708/12/O/N/21 Q25](#): Laura,  $6 \div 3 = 2$ ).
- **A productivity change:** recalculate the opportunity costs with the new numbers and see whether the ranking changes. It often does not.
- **Two PPC lines:** the line further out on an axis has the absolute advantage in that good; compare slopes for comparative advantage. If the lines are parallel, opportunity costs are equal and there is no gain from trade.

### 3. Multiple choice: causes and effects of a terms of trade change (9 questions)

1. **Causes:** ask what happens to export prices relative to import prices. Appreciation improves; depreciation, a fall in demand for exports, dearer imported materials or an export subsidy worsen.
2. **Effects:** an improvement means **fewer exports buy the same imports** and cheaper imported inputs (**less cost-push inflation**). It does **not** mean the balance of payments must improve.

#### Variations you will meet:

- **"Most likely cause of an improvement":** a rise in the exchange rate. A **relatively low** domestic inflation rate would worsen it, not improve it.
- **"What will definitely change the terms of trade?"** A rise in imported raw material prices and an appreciation do; a change in inflation does not necessarily ([9708/12/M/J/23 Q25](#): only 25% chose the right answer).
- **True statements about a rise from 100 to 120:** fewer exports buy the same imports. It has not deteriorated, and the balance of payments need not improve ([9708/11/M/J/24 Q27](#)).
- **A commodity exporter cutting supply** when world demand is **inelastic**: the price rises by more than quantity falls (say price +20%, quantity –10%, so revenue  $\times 1.08$ ), so both the terms of trade **and** the current account improve ([9708/13/O/N/25 Q30](#)).
- **A rising index** is most likely to reduce cost-push inflation ([9708/13/M/J/25 Q29](#)).
- **A worsening** can result from a fall in demand for exports. Many candidates confuse it with the balance of trade ([9708/14/M/J/22 Q27](#)).

### 4. Written: evaluate the effects of a terms of trade change (8 questions)

8-mark (a) parts (3 knowledge, 3 analysis, 2 evaluation) and 12-mark (b) essays: "consider whether an improvement can ever be harmful", "the extent to which it will benefit the current account", "is an improvement in the terms of trade or a current account surplus of more benefit?", "should an economy worry more about its terms of trade or its balance of trade?"

1. **Define** with the formula and say what an improvement means (export prices up relative to import prices).
2. **Benefits** (a developed chain each): more imports for each unit of exports → higher living standards; cheaper imported inputs → lower costs → less cost-push inflation.
3. **Costs**: dearer exports → less competitive → if demand is price elastic, export revenue falls → current account worsens → lower AD, output and jobs in export industries.
4. **Evaluate**: depends on the **cause** (rising world demand vs domestic inflation or appreciation), the **PED** for exports and imports, how long it lasts, and how dependent the economy is on trade.
5. **Conclude**: answer the question asked ("ever harmful", "more benefit") with a reason.

### Variations you will meet:

- **Compared with a current account surplus (9708/22/M/J/25 Q5)**: a surplus means rising export volumes, AD and jobs, but it may come from low domestic spending or be inflationary; an improved terms of trade raises purchasing power but may cut exports. Weigh both, then judge.
- **Terms of trade versus balance of trade (9708/22/O/N/23 Q4)**: explain that one is about prices and the other about values. The balance of trade affects AD and jobs directly; the terms of trade affect living standards.
- **A rise or a fall for an economy heavily dependent on trade**: both can help or harm; the size of its export and import sectors makes the effects bigger.
- **Effect of tools of protection on the terms of trade (9708/23/M/J/24 Q5)**: a tariff or quota by a large importer can cut world demand for the import and lower its price (improvement); an export subsidy lowers export prices (deterioration).

## 5. Written: comparative advantage, specialisation and its limitations (8 questions)

"Explain the difference between absolute and comparative advantage and consider whether comparative advantage is always the more important influence on trade", "Assess whether comparative advantage should be the main factor when countries decide to trade", "Assess whether government policy can influence comparative advantage", "Assess whether the theories are substantially undermined by their limitations", and 6-mark data parts on a country specialising in one export.

1. **Define both** precisely: absolute advantage is **more output from the same resources**; comparative advantage is a **lower opportunity cost**. Say that one country can have the absolute advantage in both goods and still gain from trade. A short number example helps, but explain it; examiners criticised unexplained tables and diagrams.
2. **Benefits (analysis)**: specialisation → more efficient allocation → higher world output → lower prices, more choice, consumption beyond the PPC (trading possibility curve).
3. **Limitations (analysis)**: transport costs, rising opportunity costs, factor immobility, trade barriers, over-specialisation and exposure to shocks, strategic dependence, infant industries, comparative advantage changing over time.
4. **Other factors** that drive trade decisions: politics and trade agreements, security of supply, exchange rates, quality and brand, protecting jobs.

5. **Conclude:** comparative advantage explains the **potential** gains, but how much a country gains depends on the conditions above.

#### Variations you will meet:

- **"Should comparative advantage be the main factor?" (9708/24/O/N/25 Q4):** one side is its benefits; the other is its limits and other factors (strategic industries, diversification). Judge which matters more for, say, food and energy versus ordinary manufactures.
- **"Can government policy influence comparative advantage?" (9708/23/M/J/25 Q5):** yes, through education and training, R&D support and infrastructure, which lower the opportunity cost of producing a good; but these take a long time, other countries can copy them, and they cost money that has other uses.
- **Data response, 6 marks:** "assess the advantages and disadvantages of a country continuing to specialise in cocoa beans" (9708/22/O/N/25 Q1): up to 3 advantages (efficiency, rising world demand, export-led growth), up to 3 disadvantages (dependence, price and harvest shocks, less land for food), at most 4 for analysis, then 1 for weighing both sides and 1 for a justified conclusion.
- **"Explain, using the extract, what is meant by comparative advantage" (2 marks):** lower opportunity cost (1), applied to the country's export in the extract (1).

### 6. Multiple choice: define or give the formula for the terms of trade (8 questions)

1. The answer is always **average export prices ÷ average import prices** ( $\times 100$  as an index), for **one** country.
2. Rule out: value of exports ÷ value of imports, volumes, exports minus imports, the exchange rate, and one country's exports compared with another country's exports (9708/12/F/M/25 Q26).

#### Variations you will meet:

- **"What does it indicate?":** the purchasing power of a country's exports in terms of imports. Not competitiveness, dependence on imports or the strength of the currency.
- **"Why no monetary units?":** it is a ratio of two index numbers (9708/11/M/J/25 Q26).

### 7. Multiple choice: reasons for trade, conditions for gains, limitations (7 questions)

1. **Valid reasons:** higher living standards, other countries more efficient at some goods, goods that cannot be made at home.
2. **Invalid:** a country having a comparative advantage in **all** its goods. That is impossible (9708/14/O/N/25 Q28).
3. **Limitations:** factor immobility, trade restrictions, transport costs. **Not** a limitation: one country being more efficient at everything (9708/11/O/N/25 Q28).

#### Variations you will meet:

- **When are gains smallest?** When factors **cannot move between the two goods** inside a country (they cannot shift into the comparative-advantage good) but **can move between countries** (9708/11/M/J/24 Q26).

- **What increases the gains?** Lower transport costs. Wages rising faster than productivity, more immobile labour or partners' tariffs reduce them.
- **Multilateral versus bilateral trade:** bilateral trade misses the gains from trading with third countries.
- **Sources of advantage:** high-income countries with researchers specialise in R&D; lower-income countries with lower costs in mass production.
- **Losing an export position:** an appreciation of the currency, which makes exports dearer.

## 8. Written: benefits of free trade against its drawbacks or protection (7 questions)

"Assess whether the benefits of free trade always outweigh the arguments for protectionism", "...whether the consequences of free trade are always positive", "...whether free trade is always better than protection for a developing economy", "Discuss whether comparative advantage means a move to free trade will always benefit an economy".

1. **Define** free trade (no barriers) and, if named, protectionism (tariffs, quotas, subsidies, embargoes, administrative barriers).
2. **Benefits of free trade**, each as a chain: specialisation by comparative advantage → higher world output and efficient allocation → lower prices and more choice → higher living standards; competition → efficiency; economies of scale; growth.
3. **Drawbacks and arguments for protection:** infant (sunrise) industries, declining (sunset) industries, strategic industries, a current account deficit, anti-dumping, structural unemployment, over-dependence.
4. **Evaluate:** who gains (consumers, exporters, efficient firms) and who loses (workers in import-competing industries); developed or developing economy; short run or long run; the risk of retaliation if a country protects.
5. **Conclude:** answer "always": usually the long-run gains are larger overall, but not for every group or every country.

### Variations you will meet:

- **Use the principle of comparative advantage itself** when the question names it (9708/22/O/N/21 Q2): examiners said many answers wrote about free trade in general and never used the principle.
- **Developing economy** (9708/22/M/J/24 Q5): apply it, for example infant industries, dependence on primary exports, tariff revenue, and access to rich markets. Generic answers were capped.
- **Free trade area and customs union** (9708/23/M/J/21 Q4): both remove tariffs between members; a customs union also has a common external tariff. Reasons for tariff-free trade are the benefits above.

## 9. Multiple choice: define absolute and comparative advantage (6 questions)

1. **Comparative advantage** = a lower opportunity cost than another country.
2. **Absolute advantage** = more output per unit of resource (or the same output with fewer resources). Not a lower wage cost, not a higher opportunity cost.
3. **Why trade benefits both:** opportunity costs differ. Not because tastes differ, prices differ or one country is better at both.

## 10. Written: causes of a terms of trade change, with the formula (6 questions)

8-mark (a) parts such as "With the help of a formula, explain two reasons for an improvement in the terms of trade..." or "Explain how higher inflation and a decline in the exchange rate will each affect the terms of trade".

1. **Knowledge (3)**: the formula (1); an improvement is a rise in the index (1); it happens when export prices rise and/or import prices fall, **relative** to each other (1).
2. **Analysis**: take each cause through to prices: higher world demand for exports → export prices rise → index rises; relative inflation → export prices rise faster than import prices; appreciation → export prices in foreign currency up, import prices in domestic currency down; depreciation the reverse.
3. **Evaluate** as the question asks (which cause matters more, whether the change helps).

### Variations you will meet:

- **Low-income countries (9708/23/M/J/24 Q5)**: they often export a few primary commodities whose world prices swing widely, so changes in world demand and supply usually matter more than relative inflation.
- **Inflation and a falling exchange rate together (9708/23/O/N/22 Q4)**: higher relative inflation raises export prices (improvement); depreciation lowers them in foreign currency (deterioration). Say the net effect depends on which is bigger.
- **2-mark data links (9708/22/F/M/22 Q1)**: inflation raises the export price index, but the terms of trade improve only if import prices rise by less.

## 11. Multiple choice: world output after specialisation (5 questions)

1. **Find full-resource outputs**. If the table shows output from **half** the resources, **double** it for the good each country specialises in.
2. **Find comparative advantage** (opportunity costs).
3. **New world output**: each country makes only its comparative-advantage good. Compare with the old totals, or add the two goods if the question asks for a "combined total".

### Variations you will meet:

- **Half-resource table (9708/13/M/J/24 Q28)**: China 20 000 X and 70 000 Y, the US 20 000 X and 50 000 Y. Full-resource Y per X: China 3.5, US 2.5, so the US specialises in X (40 000) and China in Y (140 000): combined total 180 000.
- **Reading PPC endpoints**: each country's maximum of its specialised good is its axis intercept.
- **Specialising and exporting (9708/13/O/N/24 Q26)**: a country at 1000 trucks and 5000 cars moves to 10 000 cars; the 5000 extra cars buy  $5000 \div 4 = 1250$  trucks at 1 truck for 4 cars, but it no longer makes its own 1000, so it has  $1250 - 1000 = 250$  extra trucks.

## 12. Multiple choice: a mutually beneficial exchange ratio, or the trading possibility curve (5 questions)

1. Work out each country's opportunity cost of one good (in units of the other).

2. **Both gain only if the trade ratio lies strictly between them.** On the boundary one country gains nothing; outside it one loses.

### Variations you will meet:

- **From two PPCs (9708/11/O/N/23 Q20):** read the intercepts, find the two opportunity costs, and pick the ratio in between.
- **"Which diagram shows the combinations of a specialised country's own good and the good it imports?"** The trading possibility curve.
- **Points beyond both PPCs** are reachable only through trade; the line joining the two countries' maximum outputs shows total combined production (9708/11/O/N/21 Q4).
- **Opportunity cost of more imports** for a country specialised in Y: the domestic consumption of Y it gives up to pay for them.

### 13. Multiple choice: calculate a terms of trade or price index (3 questions)

Use  $ToT = \frac{P_x}{P_m} \times 100$ , rearranged as needed:  $P_x = \frac{ToT \times P_m}{100}$ .

- **From price and volume indexes:** export price 121, import price 110, ignore volumes:  $\frac{121}{110} \times 100 = 110.0$  (9708/13/O/N/22 Q23).
- **Find the export price index:** ToT 90 and import index 110 gives  $P_x = 99$ ; ToT 80 gives 88; it fell by 11 (9708/11/O/N/25 Q27).
- **Which changes take the index from 100 to 110?** Exports +10%, imports unchanged. Exports +5% and imports -5% gives 110.5, not 110 (9708/12/O/N/24 Q27).

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## Worked examples

### Example 1

The table shows the number of hours it takes country X and country Y to produce one bicycle and one table.

|           | Bicycle  | Table   |
|-----------|----------|---------|
| Country X | 6 hours  | 3 hours |
| Country Y | 12 hours | 4 hours |

Which statement is correct?

- A** Country Y has a comparative advantage in bicycles.
- B** Country X has a comparative advantage in tables.
- C** Country X has an absolute advantage in both goods and a comparative advantage in bicycles.
- D** Neither country gains from trade because country X is more efficient at both goods.

[1]

X needs fewer hours for both goods, so X has the absolute advantage in both. A bicycle takes as long as  $6 \div 3 = 2$  tables in X but  $12 \div 4 = 3$  tables in Y, so bicycles cost X less: X has the comparative advantage in bicycles, and Y (a table costs it  $\frac{1}{3}$  bicycle against X's  $\frac{1}{2}$ ) in tables. The answer is **C**. (1)

## Example 2

In year 1 a country's terms of trade index is 100. In year 2 its average export prices rise by 8% and its average import prices rise by 20%.

(a) Calculate the terms of trade index for year 2. [1]

(b) State whether the terms of trade have improved or deteriorated, and explain what this means for the country. [2]

(c) In year 3 the terms of trade index is still 90 and the import price index (year 1 = 100) is 125. Calculate the export price index in year 3. [1]

(a)  $\frac{108}{120} \times 100 = 90$  (1).

(b) They have deteriorated, by 10% (1): export prices have risen less than import prices, so the country must export more to pay for the same quantity of imports (1).

(c)  $P_x = \frac{90 \times 125}{100} = 112.5$  (1).

## Example 3

With the help of a formula, explain two causes of a deterioration in a country's terms of trade and consider whether a deterioration is always harmful to the economy. [8]

The terms of trade are  $\frac{\text{index of average export prices}}{\text{index of average import prices}} \times 100$  (**1, AO1**). A deterioration is a fall in this index (**1, AO1**), which happens when export prices fall relative to import prices, so more exports must be sold to buy the same imports (**1, AO1**).

One cause is a **depreciation** of the currency: each unit of domestic currency buys less foreign currency, so exports become cheaper in foreign currency and imports dearer in domestic currency, and the index falls (**1, AO2**). A second cause is a **fall in world demand** for the country's main export, for example in a world recession: its world price falls while import prices are unchanged, so the terms of trade worsen (**1, AO2**). This is harmful because the country can afford fewer imports, so living standards fall, and dearer imported materials raise firms' costs and cause cost-push inflation (**1, AO2**).

A deterioration is not always harmful: if it comes from a depreciation and demand for exports is price elastic, export volumes rise by more than prices fall, so export revenue rises and the current account, output and jobs improve; but if it comes from falling world demand, revenue falls as well (**1, AO3**). So a deterioration is harmful

when it is caused by weaker demand for exports, but can benefit the economy when it comes from more competitive export prices and demand for exports is elastic, so its cause matters more than its size (**1, AO3, justified conclusion**).

(Knowledge 3, analysis 3, evaluation 2: **8/8**.)

## Example 4

Assess whether specialising according to comparative advantage always benefits a developing economy. [**12**]

*Model answer (outline of each paragraph):*

1. **Terms.** Comparative advantage: making a good at a lower opportunity cost than other countries. Specialisation: concentrating resources on the goods with that advantage and trading for the rest. A developing economy often has its advantage in primary products (crops, minerals) or labour-intensive manufactures. (*Accurate knowledge.*)
2. **Benefits.** Resources move to where their opportunity cost is lowest, so world and national output rise. Trading at a rate between the two countries' opportunity costs puts the economy on a trading possibility curve beyond its PPC (diagram 2): it consumes more of both goods. Export earnings pay for capital goods and technology the country cannot make; larger markets bring economies of scale and jobs. (*Developed chains, with a diagram.*)
3. **Limitations of the theory.** Transport costs may cancel the advantage; opportunity costs rise as it specialises; workers may not move between industries, so specialising creates structural unemployment; rich countries' tariffs and subsidies may block its exports. (*The other side, tied to the theory's assumptions.*)
4. **Risks of over-specialisation.** Dependence on one commodity exposes it to price swings, poor harvests and falling world demand, which also worsen its terms of trade. Infant manufacturing industries may never develop, keeping it in low-value production. Relying on imported food is a strategic risk. (*Applied to a developing economy.*)
5. **Evaluation.** The benefit depends on what it specialises in (a commodity with volatile prices or a growing manufacturing sector), on how diversified its exports are, on access to rich-country markets, and on whether the gains are shared or go to a few. Comparative advantage can also be built through education and infrastructure. (*Weighs the conditions.*)
6. **Conclusion.** Specialisation usually raises total output and consumption, so it benefits the economy overall, but not **always**: a developing economy dependent on one primary export can lose badly from price shocks, so partial specialisation with some diversification is the safer path. (*Justified conclusion: full evaluation marks.*)

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## Common mistakes

- **Confusing the terms of trade with the balance of trade.** Examiners report this almost every year, even from candidates who write the correct formula and then discuss the **value** of exports and imports. The terms of trade are about **prices** only. Such answers get 1 mark at most.

- **Mixing up absolute and comparative advantage.** Absolute advantage is about output from **the same resources**; comparative advantage is about **opportunity cost**. Vague definitions of absolute advantage lose the mark.
- **Thinking a country better at everything cannot gain from trade.** It still has a comparative advantage in one good. Examiners noted that most answers missed this.
- **Reading an inputs table as an outputs table.** When the numbers are hours per unit, smaller is better; invert before comparing.
- **Saying lower inflation improves the terms of trade.** Lower relative inflation makes exports cheaper, which **worsens** the terms of trade (though it helps competitiveness). Inflation alone does not definitely change them, because export and import prices may both move.
- **Adding percentage changes.** Export prices +5% and import prices –5% gives 110.5, not 110. Divide the indexes.
- **Assuming an improvement is always good**, or that it must improve the current account. Use PED and the cause.
- **Unexplained tables and diagrams.** Long tables of outputs earn nothing unless you use them to explain the gains. Examiners also saw answers write about free trade in general when the question asked them to **use** the principle of comparative advantage.
- **Generic answers.** When the question names a developing economy, low-income countries or a country in the extract, apply every point to it.
- **Summary instead of evaluation.** Repeating the analysis is not a judgement; say what the answer depends on, then answer the question.

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## How to get the marks

- **Multiple choice:** write the export and import price indexes next to every option and divide. For advantage tables, write each country's opportunity cost of one good next to the table before reading the options.
- **"With the help of a formula":** write the full formula ( $\text{index of average export prices} \div \text{index of average import prices} \times 100$ ). It is a knowledge mark on its own, and stating that an improvement is a **rise** in the index, from export prices rising **relative** to import prices, earns the others.
- **"Explain the difference between":** define both terms precisely and make the contrast clear; a short numerical illustration helps only if you explain it.
- **"Explain"** needs the chain: cause → export or import prices → terms of trade → effect on living standards, inflation, competitiveness, the current account, output and jobs.
- **"Consider", "assess", "discuss", "to what extent":** both sides, then a judgement that says what the answer **depends on** (the cause of the change, PED, the type of economy, the time scale), then a sentence that answers the question. One-sided answers get no evaluation marks.
- **"Always", "main factor", "best":** test the claim against at least one case where it fails, and name another factor that matters.
- **8-mark (a) parts:** point-marked, up to 3 knowledge, 3 analysis, 2 evaluation (one kept for a justified conclusion).

- **12-mark (b) parts:** level-marked, 8 for knowledge and analysis, 4 for evaluation. Level 3 needs balanced, accurate analysis tied to the question.
- **6-mark data parts:** use the country and figures in the extract; up to 3 marks a side, 4 at most for both, then 2 for evaluation.

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## Quick check

1. A country's export price index is 132 and its import price index is 120. Calculate its terms of trade and say what the figure means.
2. Using the same resources, country P can make 40 tonnes of wheat or 20 cars; country Q can make 30 tonnes of wheat or 10 cars. Which country has the comparative advantage in cars? Would trading 1 car for 2.5 tonnes of wheat benefit both countries?
3. A country's terms of trade improve from 100 to 110 while its import prices fall by 10%. What happened to its export prices?
4. Using half their resources on each good, country X makes 300 shoes and 100 hats and country Y makes 200 shoes and 200 hats. Each country then specialises completely according to comparative advantage. Find the change in world output of each good.
5. Explain why a deterioration in the terms of trade might improve a country's current account. **[2]**

## Answers

1.  $\frac{132}{120} \times 100 = 110$ . Export prices are 10% higher relative to import prices than in the base year, so each unit of exports buys 10% more imports.
2. A car costs P  $40 \div 20 = 2$  tonnes of wheat and Q  $30 \div 10 = 3$  tonnes, so P has the comparative advantage in cars (and Q in wheat), even though P has the absolute advantage in both. Yes: 2.5 lies between 2 and 3, so P gets more wheat for a car than it costs P, and Q pays less wheat for a car than making one costs Q.
3. Import price index 90, so  $P_x = \frac{110 \times 90}{100} = 99$ : export prices **fell** by 1%. The terms of trade improved because import prices fell faster.
4. Full resources: X 600 shoes or 200 hats (a hat costs X 3 shoes); Y 400 shoes or 400 hats (a hat costs Y 1 shoe). Y specialises in hats (400) and X in shoes (600). Before: 500 shoes and 300 hats. After: 600 shoes and 400 hats, so world output rises by 100 shoes and 100 hats.
5. A deterioration means export prices have fallen relative to import prices, so exports become more price competitive (1). If demand for exports is price elastic, export volumes rise by a larger percentage than the price falls, so export revenue rises and the current account improves (1).

## Past questions to try

- 9708/12/O/N/24 Q27: which price changes take the terms of trade from 100 to 110.
- 9708/12/F/M/24 Q24: comparative advantage from a table of inputs per unit.
- 9708/22/M/J/25 Q5: part (b), an improvement in the terms of trade against a current account surplus.
- 9708/21/O/N/23 Q5: part (b), whether the limitations of the theories of absolute and comparative advantage undermine them.