

Definitions

Absolute advantage occurs when one country can produce a good using fewer factors of production than another. This means it can produce more output from the same quantity of inputs.

Comparative advantage occurs when one country can produce a good at a lower opportunity cost than another.

A country can have an absolute advantage in both goods but a comparative advantage in only one. Comparative advantage, rather than absolute advantage, determines how countries should specialise.

How to identify comparative advantage

Numerical method

Comparative Advantage: UK and Saudi Arabia

Maximum output (illustrative units)		
Good or service	UK	Saudi Arabia
 Financial services	4	2
 Crude oil	1	1

Opportunity cost	
Produce 1 unit of financial services	UK: give up 1/4 unit of crude oil Saudi Arabia: give up 1/2 unit of crude oil UK has comparative advantage
Produce 1 unit of crude oil	UK: give up 4 units of financial services Saudi Arabia: give up 2 units of financial services Saudi Arabia has comparative advantage

Memory rule: Lower loss = comparative advantage
The UK saves oil. Saudi Arabia saves services.

Producing financial services

To produce one unit of financial services:

UK: $1 \div 4 = 0.25$ units of crude oil given up

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Saudi Arabia: $1 \div 2 = 0.5$ units of crude oil given up

The UK gives up less crude oil. Therefore, the UK has the comparative advantage in financial services.

Producing crude oil

To produce one unit of crude oil:

UK: $4 \div 1 = 4$ units of financial services given up

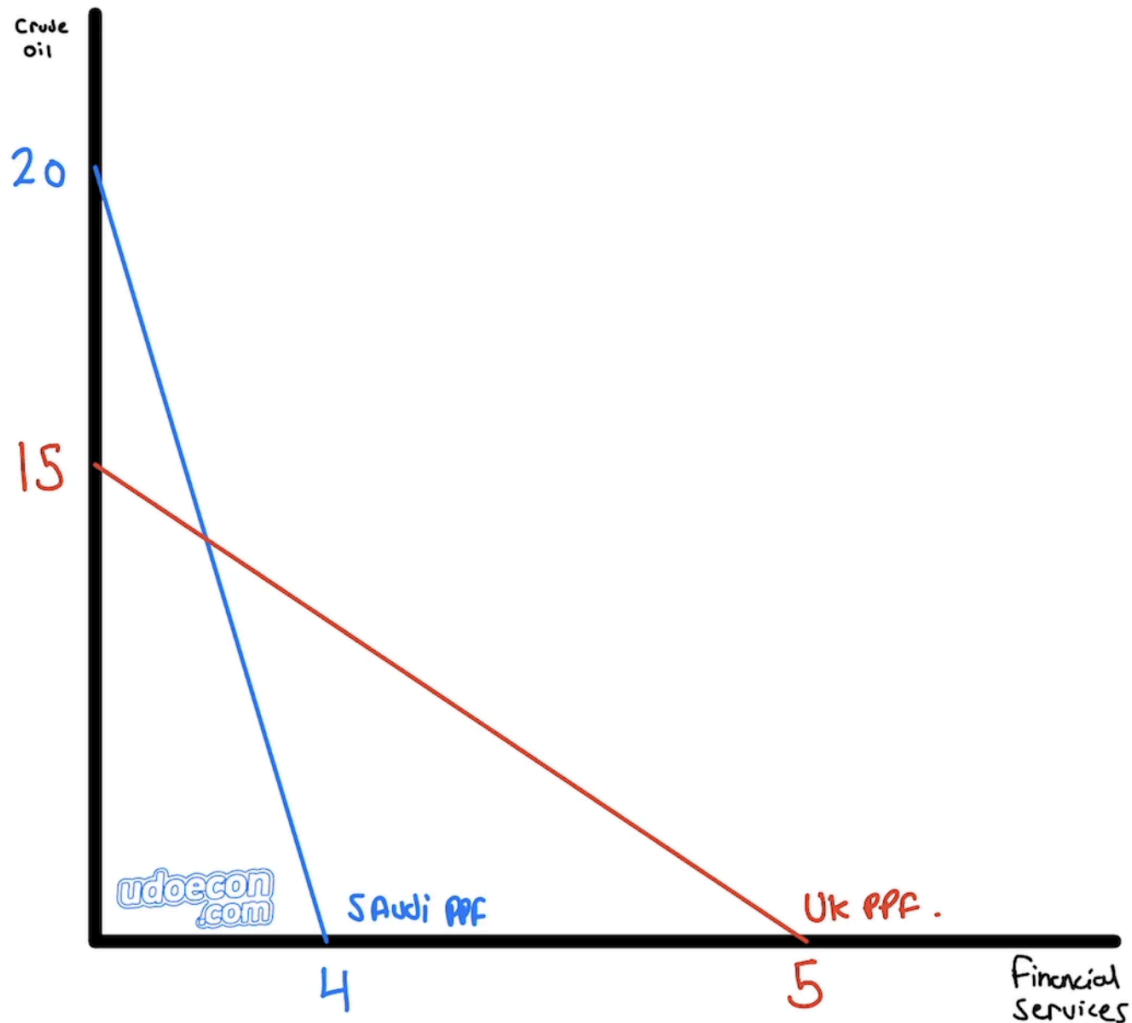
Saudi Arabia: $2 \div 1 = 2$ units of financial services given up

Saudi Arabia gives up fewer financial services. Therefore, Saudi Arabia has the comparative advantage in crude oil.

Memory rule

Lower loss = comparative advantage.

Using a PPF to identify comparative advantage



The horizontal axis shows financial services, while the vertical axis shows crude oil.

The slope of a production possibility frontier represents the opportunity cost of producing the good or service on the horizontal axis.

- The UK's red PPF is flatter, showing a comparative advantage in financial services.
- Saudi Arabia's blue PPF is steeper, showing a comparative advantage in crude oil.

Financial services

The UK can produce either five units of financial services or 15 units of crude oil.

The opportunity cost of one unit of financial services is:

$$15 \div 5 = 3 \text{ units of crude oil}$$

Saudi Arabia can produce either four units of financial services or 20 units of crude oil.

The opportunity cost of one unit of financial services is:

$$20 \div 4 = 5 \text{ units of crude oil}$$

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The UK gives up only three units of crude oil, while Saudi Arabia gives up five. The UK therefore has the comparative advantage in financial services.

Crude oil

The UK's opportunity cost of one unit of crude oil is:

$$5 \div 15 = 0.33 \text{ units of financial services}$$

Saudi Arabia's opportunity cost of one unit of crude oil is:

$$4 \div 20 = 0.2 \text{ units of financial services}$$

Saudi Arabia gives up fewer financial services. Saudi Arabia therefore has the comparative advantage in crude oil.

Always check which product appears on each axis before using the flatter and steeper PPF rule.

Absolute advantage

A country has an absolute advantage when it can produce **more** of a good/service (using the same quantity of resources.)

The UK can produce five units of financial services, compared with four in Saudi Arabia. The UK therefore has an absolute advantage in financial services.

Saudi Arabia can produce 20 units of crude oil, compared with 15 in the UK. Saudi Arabia therefore has an absolute advantage in crude oil.

In this example, each country's absolute advantage matches its comparative advantage.

Gains from specialisation and trade

Countries should specialise in the product they can produce at the lowest opportunity cost.

- The UK specialises and produces five units of financial services.
- Saudi Arabia specialises and produces 20 units of crude oil.
- Their combined production is five units of financial services and 20 units of crude oil.

They can then trade some of this specialised output.

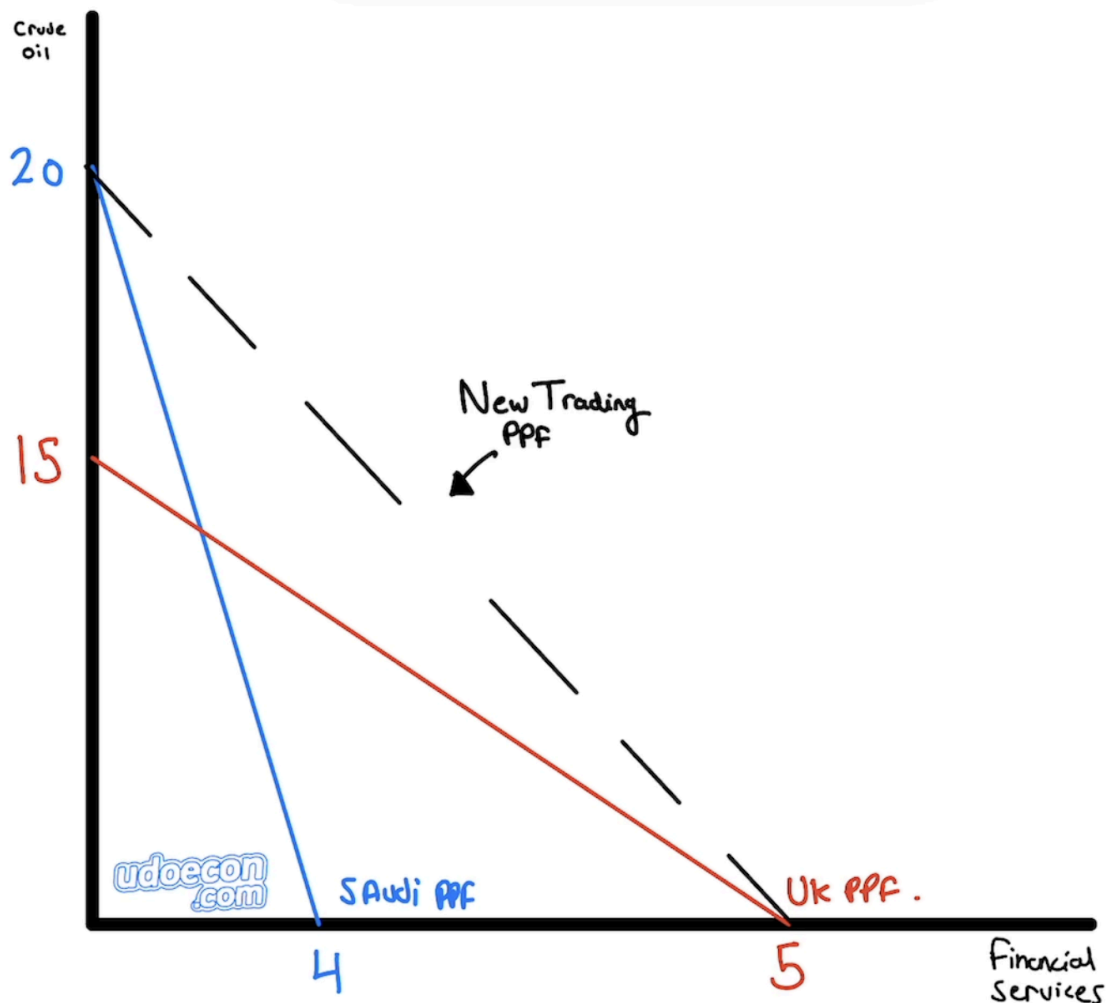
Suppose the UK gives Saudi Arabia two units of financial services in exchange for eight units of crude oil.

After trade:

- The UK consumes three units of financial services and eight units of crude oil.
- Saudi Arabia consumes two units of financial services and 12 units of crude oil.

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Both countries can now consume beyond their individual domestic PPFs. Specialisation increases combined output, while trade allows each country to consume both products.



Mutually beneficial terms of trade

For both countries to gain, the terms of trade must lie between their opportunity costs.

The opportunity cost of one unit of financial services is:

- Three units of crude oil in the UK.
- Five units of crude oil in Saudi Arabia.

A trading rate of one unit of financial services for four units of crude oil lies between these opportunity costs. It can therefore benefit both countries.

The UK receives four units of crude oil for a unit of financial services that costs it only three units of crude oil to produce.

Saudi Arabia gives up four units of crude oil to obtain a unit of financial services that would cost it five units of crude oil to produce domestically.

Assumptions of comparative advantage

The theory of comparative advantage is based on several simplifying assumptions thus meaning unrealistic and difficult to apply to the real world.

No transport costs

In reality, firms face shipping costs. If these costs are high, they may outweigh the gains from specialisation.

No protectionism

The theory assumes that there are no tariffs, quotas or other trade barriers.

Protectionist measures increase the price of imports. They may prevent countries from fully exploiting their comparative advantages.

Mobile factors of production

Workers and capital are assumed to move easily from declining industries into expanding industries.

In practice, workers may lack the required skills or be unable to relocate. This can create structural unemployment.

Constant production costs

The model assumes that opportunity costs remain constant as output increases.

In reality, moving more resources into one industry may cause diminishing returns and rising marginal costs. Complete specialisation may therefore be less efficient than partial specialisation.

Advantages of specialisation and trade

Lower prices

Specialisation can increase efficiency and reduce production costs. Firms may pass these savings on to consumers through lower prices.

Economies of scale

Specialised firms produce on a larger scale. This may reduce long run average costs through purchasing, technical, managerial or financial economies of scale.

Greater consumer choice

International trade allows consumers to buy goods and services that are not produced domestically. For example The average UK supermarket now stocks over 30,000 products .

Greater competition

Domestic firms must compete with foreign producers. This may encourage them to lower costs, reduce prices, improve quality and innovate.

Larger markets

Trade allows firms to sell their products outside the domestic market. Higher demand may increase revenue, profit and investment.

Economic growth

Higher exports increase aggregate demand. Specialisation may also improve productivity and increase the economy's productive capacity.

Higher living standards

Lower prices, higher output and greater consumer choice can increase real incomes and material living standards. For example Globalisation reduced extreme global poverty rates from 36% in 1990 to under 10%.

Limitations and disadvantages

Overdependence

Specialisation makes countries more dependent on particular industries, export markets or foreign suppliers.

For example Prior to 2022, Germany relied on Russia for 55% of its natural gas imports . Following supply disruptions, wholesale gas prices peaked at more than 10 times the pre crisis historical average.

Structural unemployment

Industries that cannot compete with imports may contract or close.

Workers may not have the skills required by the economy anymore , creating long term structural unemployment.

For example, the UK's manufacturing workforce went from a peak of 8.9 million in 1966 to just 2.7 million today .