

4.1 Benefits of international trade (includes HL only subtopics and calculations)



Learning objectives

4.1 Benefits of international trade	Depth	Diagrams and calculations
Benefits of international trade, including:	AO2	Diagram: free trade illustrating exports when world
 increased competition 	AO4	price is above domestic price
lower prices		
greater choice		Diagram: free trade illustrating imports when world
 acquisition of resources 		price is below domestic price
 more foreign exchange earnings 		
 access to larger markets 		Calculation (HL only): from a diagram, the
 economies of scale 		quantity of exports, quantity of imports, import
 more efficient resource allocation 		expenditure, export revenue
 more efficient production 		



Learning objectives

4.1 Benefits of international trade	Depth	Diagrams and calculations
Absolute and comparative advantage	AO2	Diagram (HL only): linear PPC showing differing
(HL only)	AO 4	opportunity costs and the potential gains from
Gains from trade		specialization and trade as a result of comparative
 Sources of comparative advantage 		advantage
Opportunity costs		
		Calculation (HL only): opportunity costs from a
		set of data in order to identify comparative
		advantage
Limitations of the theory of comparative	AO3	
advantage (HL only)		





International trade

International trade refers to the exchange of goods, services, and resources between nations.



Real world example – data analysis activity

Source: Ranking the Goods Most Traded Between the U.S. and China

Examine the import and export data of the US and China.

Data Analysis Questions

- 1. What do you notice from the data?
- 2. What questions do you wonder about the data?
- 3. Research information that may help you answer your questions from Q3.
- 4. What conclusions can you make from Q1, Q2, and Q3?





Benefits of international trade

- Increased competition
- Lower prices
- Greater choice
- Acquisition of resources
- More foreign exchange earnings
- Access to larger markets
- Economies of scale
- More efficient resource allocation
- More efficient production





Article: <u>COVID-19</u>: China's exports of medical supplies provide a ray of hope

- 1. What percentage of global PPE is exported from China?
- 2. White House trade advisor Peter Navarro proposed that the United States should forbid hospitals from importing critical supplies from China. How would "Buy Local" regulations affect the US economy, in terms of prices and opportunity costs?
- 3. Why would it be risky for countries to fully depend on China for PPE exports?







Closed economy

Without international trade, the domestic US oil market consists of domestic consumers (Dd) and domestic producers (Sd) and market equilibrium occurs at Pe and Qe.

Consumer surplus

Producer surplus













Open economy where Pw > Pe

If the international price of oil (Pw) were greater than the domestic price of oil (Pe), domestic US oil producers would be able to sell their oil at Pw instead of Pe.

Pw would become the new market equilibrium price in the domestic US oil market.





Open economy where Pw > Pe

- Market price rises from $P_e \rightarrow P_w$.
- Quantity demanded decreases from $Q_e \rightarrow Q_d$.
- Quantity supplied increases from $Q_e \rightarrow Q_s$.
- At Pw, domestic consumers purchase Qd quantity.
- The remaining excess supply of Qs-Qd is exported and sold to international consumers.

Consumer surplus decreases with trade

Producer surplus increases with trade

Social surplus increases.





Open economy where Pw < Pe

If the international price of oil (Pw) were lower than the domestic price of oil (Pe), domestic US consumers would be able to purchase oil at Pw instead of Pe.

Pw would become the new market equilibrium price in the domestic US oil market.





Open economy where Pw **<** Pe

- Market price falls from $P_e \rightarrow P_w$.
- Quantity demanded increases from $Q_e \rightarrow Q_d$.
- Quantity supplied decreases from $Q_e \rightarrow Q_s$.
- At Pw, domestic producers produce Qs quantity.
- The remaining excess demand of Qd-Qs is imported from international producers.
 - Consumer surplus increases with trade
 - Producer surplus decreases with trade
- Social surplus increases



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- Page 425
- Paper 2 Exam Practice Question 27.1
- [2 marks]
- [2 marks]
- [4 marks]





Calculations (HL only)





Over to you...

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- Page 426
- Paper 3 Exam Practice Question 27.2 (HL only)
- [2 marks]
- [3 marks]
- [2 marks]







Absolute advantage occurs when a country can produce a good or service using fewer resources than another country.



Suppose Brazil and Italy both produce coffee and wine.

If both countries were to use all its resources to produce only one of the goods;

- Brazil can produce either 8L of coffee or 6L of wine.
- Italy can produce either 5L of coffee or 9L of wine.

Table 1	Coffee (L)	Wine (L)
Brazil	8 C	or 6
Italy	5 C	or 9





Table 1	Coffee (L)	Wine (L)
Brazil	8 C	or 6
Italy	5 C	or 9

Using the information in Table 1, illustrate two straight-line PPCs to show the combinations of coffee and wine which Brazil and Italy can produce.





The theory of **absolute advantage** suggests that countries should specialize production in the good or service they enjoy an absolute advantage in before engaging in international trade.

In this case, Brazil should specialize in coffee production while Italy should specialize in wine production before engaging in trade.



Suppose Brazil and Italy agree to trade 4L of coffee for 4L of wine. The quantity of coffee and wine after trading is shown below:

Output before trade		Output after trade		
	Coffee (L)	Wine (L)	Coffee (L)	Wine (L)
Brazil	8	0	8 - 4 = 4	0 + 4 = 4
Italy	0	9	0 + 4 = 4	9 - 4 = 5





Output after trade					
Coffee (L) Wine (L)					
Brazil	4	4			
Italy	5				

Point A – Brazil's output with tradePoint B – Italy's output with trade



When countries specialize under

absolute advantage and trade, they can

operate at a point outside of their PPCs.





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



Countries can benefit from specialization and international trade even if one party has an absolute advantage in producing both products.

If the **opportunity cost** differs between the countries, both parties can benefit from specialization and trade. This improves the global allocation of resources and allows countries to operate beyond their PPCs.



Suppose Japan and South Korea both produce cars and cell phones with the following PPCs.





We can identify each country's comparative advantage by calculating the opportunity costs.



Japan's opportunity cost of producing 100 cars is forgoing 50 cell phones. Therefore, the opportunity cost of producing 1 car is 0.5 cellphones for Japan.

South Korea's opportunity cost of producing 20 cars is forgoing 40 cell phones. Therefore, the opportunity cost of producing 1 car is 2 cellphones for South Korea.



We can identify each country's comparative advantage by calculating the opportunity costs.



Japan's opportunity cost of producing 50 cellphones is forgoing 100 cars. Therefore, Japan's opportunity cost of producing 1 cellphone is 2 cars.

South Korea's opportunity cost of producing 40 cellphones is forgoing 20 cars. Therefore, South Korea's opportunity cost of producing 1 cellphone is 0.5 cars.

Using opportunity costs to identify comparative advantage

	Opportunity cost of producing cars	Opportunity cost of producing cell phones
Japan	0.5 cell phones	2 cars
South Korea	2 cell phones	0.5 cars

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

Therefore, Japan has a comparative advantage in producing cell phones, while South Korea has a comparative advantage in producing cars.

The theory of **comparative advantage** suggests that countries should specialize production in the

good or service they enjoy a comparative advantage in before engaging in international trade.

	Opportunity cost of producing cars	Opportunity cost of producing cell phones
Japan	0.5 cell phones	2 cars
South Korea	2 cell phones	0.5 cars

In this case, Japan should specialize in cell phone production while South Korea should specialize in car production before engaging in trade.



Suppose Japan and South Korea agree to trade 10 cars for 10 cell phones. The quantity of cars and cell phones after trade is shown below:

	Output before trade		Output	after trade
	Cars	Cell phones	Cars	Cell phones
Japan	100	0	100 - 10 = 90	0 + 10 = 10
South Korea	0	40	0 + 10 = 10	40 - 10 = 30





Point A – Japan's output with trade.

Point B – South Korea's output with trade.



When countries specialize and trade

under comparative advantage, they

can operate outside of the PPC.







The country with the flatter PPC has a comparative advantage in

producing the product on the x-axis.



The country with the steeper PPC

has a comparative advantage in

producing the product on the y-axis.



Real world example - Watch the video from 0:00–4:00

- 1. Using examples from the video, explain the theory of comparative advantage.
- 2. What gives China a comparative advantage over Germany in producing iPhones?



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- Page 430
- Paper 3 Exam Practice Question 27.3 (HL only)
- [1 mark]
- [2 marks]
- [2 marks]





Sources of comparative advantage (HL only)

The source of a country's comparative advantage depends on multiple factors.

Factor endowments

Some countries are naturally endowed in certain resources e.g., Saudi Arabia and oil reserves.

Exchange rates

An appreciation of the domestic currency means imports become cheaper while exports become more expensive for foreign buyers.



Sources of comparative advantage (HL only)

Price stability

Inflation in the domestic country causes demand for exports to fall while demand for imports to rise.

Trade barriers

Export subsidies, tariffs and import quotas create an artificial comparative advantage as exports become more competitive while imports become more expensive and restricted

Division of labour and increasing returns to scale

Skilled labour allows for specialization and division of labour in various industries.



Limitations of the theory of comparative advantage (HL only)

Assumptions of the theory of comparative advantage:

- There are no trade barriers
- There is perfect information
- There are no transportation costs
- There is perfect mobility of resources
- There is full employment of resources
- Goods and services are homogeneous
- There are constant returns to scale/ no economies of scale.









Test your knowledge on this unit: <u>Kahoot!</u>

