

Comparative Advantage & Gains from Trade



Assessment Objectives

Specific Expectations	
1.A	Define absolute advantage and comparative advantage.
1.A	Determine (using data from PPCs or tables as appropriate) absolute and comparative advantage.
1.B	Explain (using data from PPCs or tables as appropriate) how specialization according to comparative advantage with appropriate terms of trade can lead to gains from trade.
1.B	Calculate (using data from PPCs or tables as appropriate) mutually beneficial terms of trade.

Absolute advantage and trade

- By examining the opportunity costs faced by two different individuals or countries, we can determine whether it may be beneficial for trade to take place.
 - ▶ Trade can be beneficial to those who participate in it if it allows an individual or country to acquire a good at a lower opportunity cost than it could be acquired without trade.
 - ▶ **Absolute advantage:** refers to the ability of a country to produce a good using fewer resources than another country.
 - ▶ **Theory of absolute advantage:** if countries specialize in and export the good in which they have an absolute advantage (can produce with fewer resources), the result is increased production and consumption in each country.

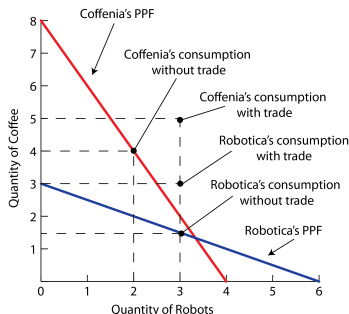
Absolute advantage: Example

- Consider a simple world economy of two countries Coffenia and Robotica, that produce coffee and robots.
 - Under autarky, assume that each worker in Coffenia and Robotica allocate their time evenly between production of robots and coffee
 - Suppose that the countries would trade 1 coffee (C) : 1 robot (R) and that 3 units are traded.

	Production (Before)		Production (Autarky)		Specialization (Production)		Specialization (Consumption)	
	Coffee	Robots	Coffee	Robots	Coffee	Robots	Coffee	Robots
Coffenia	8	4	4	2	8	0	5	3
Robotica	3	6	1.5	3	0	6	3	3
Total	—	—	5.5	5	8	6	8	6

Absolute advantage: Example (Continued)

- Originally, both countries were producing on their PPF
 - ▶ Trade allows countries to consume at a point outside of their PPF
 - ▶ Specialization increases production by 2.5 units of coffee and 1 robot
- Specialization according to absolute advantage leads to a global reallocation of resources where production takes place by the most efficient producers.



Comparative advantage and trade

- **Comparative advantage:** arises when a country has a lower relative cost, or opportunity cost, in the production of a good than another country.
- **Theory of comparative advantage:** as long as opportunity costs in two or more countries differ, it is possible for all countries to gain from specialization and trade according to their comparative advantage.
 - ▶ Mutually beneficial trade can occur when two countries specializing in two different goods can agree upon terms of trade that allows each country to import the good the other is producing at a cost lower than it could be produced in the domestic market.

Comparative advantage: Example 1

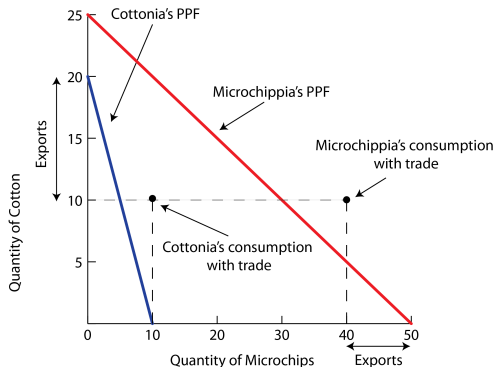
- Consider a simple world economy of two countries Cottonia and Microchippia, producing cotton and microchips.

	Production		Coffee	Microchips
	Coffee	Microchip	Opportunity Cost	Opportunity Cost
Coffenia	20	10	0.5	2
Microchippia	25	50	2	0.5

- Suppose that the countries trade 1 cotton: 1 microchip and that 10 units are traded.
- Since Cottonia has a lower opportunity cost in the production of cotton the country would specialize in cotton production.
 - ▶ Cottonia would export cotton and import microchips

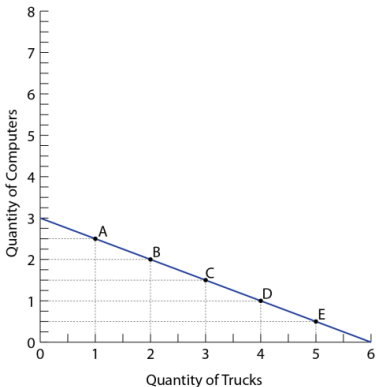
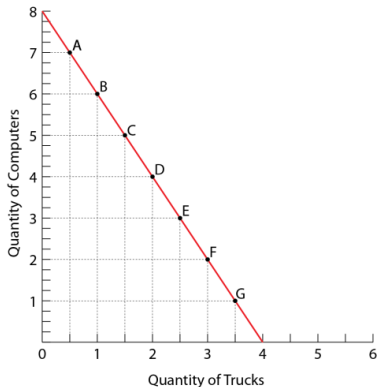
Comparative advantage: Example 1 (Continued)

- Microchippia has a lower opportunity cost in the production of microchips and would specialize in microchip production.
- Microchippia would export microchips and import cotton.
 - ▶ Trade allows both countries to consume at a point outside of their PPF



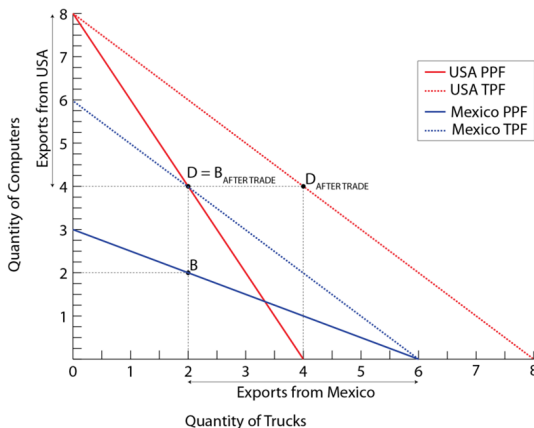
Comparative advantage: Example 2

- Suppose that the chosen production bundle under autarky for the United States was D (2 Trucks, 4 Computers) and similarly for Mexico it was B (2 Trucks, 2 Computers).
- ▶ Assume the negotiated terms of trade are 1 Truck: 1 Computer



Comparative advantage: Example 2

- The **trading possibilities curve** represents all combinations of the maximum amount of two goods that can be consumed by an economy after specialization and trade.



Sources of comparative advantage

- Source of comparative advantage stem from differences in quantities and quality of factors of production, as well as technology, which altogether are called “**factor endowments**”.

1. Land

- Endowment of natural resources
- Climate

2. Labour

- Quality of labour force – skilled and qualified workforce
- Quantity of labour – size of the labour force
- Wage costs of labour

3. Capital

- The quality of capital
- Quantity of capital – capital to labour ratio

4. Enterprise

- Managerial processes to ensure the efficiency
- Utilising technological change
- Leading research and development

Strengths and Limitations of Comparative Advantage

- The theory of comparative advantage concludes that free trade increases global production and consumption, leading to an improved global allocation of resources.
- However, the theory of comparative advantage is subject to several limitations:
 1. The theory of comparative advantage depends on many unrealistic assumptions.
 - i. **Factors of production are assumed to be fixed** – in other words they do not move from one country to another and do not change.
 - ii. **Technology is assumed to be fixed** – this is highly unrealistic since new technologies are continuously being introduced.

Strengths and Limitations of Comparative Advantage

- iii. **Perfect mobility of factors of production within the country** – meaning that factors of production can be instantly and costlessly moved from one line of production to another.
 - iv. **Full employment of all resources** – this is hardly ever met, especially in developing countries, where there is often high unemployment and underemployment of labour.
 - v. **Free trade** – meaning that trade flows are determined entirely by market forces; in reality, there is strong government intervention in markets that influences quantities of imports and exports.
 - vi. **Homogeneous products** – the product is identical in every respect.
 - vii. **Transportation costs are ignored** – there are costs of transportation for imports and exports that change relative prices and may limit the benefits of specialization.
2. Specialization according to comparative advantage may not allow necessary structural changes to occur in an economy
 3. Trade on the basis of comparative advantage may lead to excessive specialization

Summary

- **Enduring Understanding**

- ▶ Production and consumption increase by engaging in trade.

- **Essential Knowledge**

- ▶ **Absolute advantage** describes a situation in which an individual, business, or country can produce more of a good or service than any other producer with the same quantity of resources.
- ▶ **Comparative advantage** describes a situation in which an individual, business, or country can produce a good or service at a lower opportunity cost than another producer.
- ▶ Production specialization according to comparative advantage results in exchange opportunities that lead to consumption opportunities beyond the PPC.
- ▶ Comparative advantage and opportunity costs determine the terms of trade for exchange under which mutually beneficial trade can occur.