

Opportunity Cost and Comparative Advantage

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Opportunity Cost

Opportunity Cost: What people must give up to obtain what they desire.

- Every interesting choice has an opportunity cost.
- If you spend your income in video games, you cannot spend it on movies.
- If you study a degree, you miss out in all the income and experience you could get working four years.

Production Possibilities Frontier (PPF)



Linear PPF

- The maximum amount of goods a country can produce using all its resources.
- Its slope measures the opportunity cost.
- Linear PPF - Constant opportunity cost.
- Defines what's feasible, not feasible, and efficient.

Production Possibilities Frontier (PPF) II



Concave PPF

- More realistic.
- Opportunity cost is increasing: Going from A to B is cheaper than going from D to E.
- What shifts the PPF?
 1. Increase factors of production.
 2. Technological changes.

Production Possibilities Frontier (PPF) III

- England produces wine and cloth using only labor.
- It needs 100 workers to produce one unit of cloth.
- It needs 120 workers to produce one unit of wine.
- There are 1200 workers in England.
- PPF.
- Opportunity cost.

Example

England vs Portugal example.

- Portugal needs 150 workers to produce one unit of cloth.
- And 100 workers to produce one unit of wine.
- There are 1200 workers in Portugal too.
- PPF and Opportunity Cost.

Absolute Advantage

Absolute Advantage. The ability to produce a good using fewer inputs than another producer.



Adam Smith

- Adam Smith argues that countries can be better off if they specialize in their absolute advantage and trade.
- Response to mercantilism.
- But how?

Trade

- England specializes in cloth and Portugal in wine.
- They trade at a price that's in between the opportunity costs:
 - For England, sell each cloth for at least $5/6$ units of wine.
 - For Portugal, buy each cloth for at most $3/2$ units of wine.
 - Any price $5/6 \leq p \leq 3/2$ works. Where p is the price of 1 cloth.
- They can consume outside of the PPF.
- Repeat using the price of wine.
- Key observation: price does not depend on the amount of labor needed to produce goods.

Example - Revisited

England vs Portugal example. Now assume Portugal becomes more efficient.

- Portugal needs 75 workers to produce cloth.
- And 50 workers to produce wine.
- There are 1200 workers in Portugal.
- PPF and opportunity cost.
- Portugal has the absolute advantage in the production of both wine and cloth.

Comparative Advantage

Comparative Advantage. The ability to produce a good at a lower opportunity cost than another producer.



David Ricardo

- David Ricardo notices that it will still be advantageous for Portugal to produce and export wine.
- By specializing in the comparative advantage, Portugal can get more cloth from England rather than producing it.

Trade - Revisited

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 - Any price $5/6 \leq p \leq 3/2$ works, where p is the price of 1 cloth.
- They can consume outside of the PPF.
- Repeat using the price of wine.

Summary

- Opportunity Cost.
- Production Possibilities Frontier.
- Absolute Advantage.
- Comparative Advantage.
- Trade.