SAPIENZA
UNIVERSITÀ DI ROMA

**European Economic Integration**
**EPOS – Master in Advanced Economics**
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# Absolute and comparative advantage

**Class overview**

1. Absolute advatage
2. Comp. advantage

# International trade

- International trade is a voluntary activity.
- But why do nations trade?
- Two answers to this question will be discussed today:
  - Absolute Advantage
  - Comparative Advantage
- The models of Absolute and Comparative Advantage show that the gains from trade are increased consumption gained through specialization in production and trade.

# Absolute advantage

- Built on the ideas of Adam Smith
- Absolute advantage exists between nations when they differ in their ability to produce goods (**differences in technologies**).
- More specifically, absolute advantage exists when one country is good at producing one item, while another country is good at producing another item.

# Absolute advantage

| | Italy | Germany |
|---|---|---|
| Computer | 4 | 2 |
| Wine | 1 | 3 |

- The table indicates the **unitary costs of production** in two countries (Italy and Germany) and in two sectors. It read as follows: e.g. in the Italian sector of wine the cost of production of one computer is 4 (hours of works), and so on…

# Absolute advantage

| | Italy | Germany |
|---|---|---|
| Computer | 4 | 2 |
| Wine | 1 | 3 |

- Since in Italy a unit of wine cost 1 hours of work and a computer 4 hours, it is possible to exchange at a rate of 1/4 in the domestic market. One computer cost 4 units of wine and 1 unit of wine cost ¼ units of computer (**relative price**).

# Absolute advantage

| | Italy | Germany |
|---|---|---|
| Computer | 4 | 2 |
| Wine | 1 | 3 |

- Italy has an absolute advantage in the production of wine (wine cost less in Italy, 1 hour instead of 3).
- Germany has an absolute advantage in the sector of computers.
- A room for international trade?

# Absolute advantage

| | Italy | Germany |
|---|---|---|
| Computer | 4 | 2 |
| Wine | 1 | 3 |

- Imagine an Italian wants to consume one unit of computer, he can either produce it by himself (4 hours of work) or buy it in the domestic market by exchanging 4 unit of wine (4 hours of work) with one computer.
- But if in the international marker there is a crazy German who exchanges one-to-one. The Italian will produce one unit of wine (1 hour) and will exchange it with one computer sold by the crazy German. He saves three hours of work!!!
- The Italian prefers the international market, is the German crazy?

# Absolute advantage

| | Italy | Germany |
|---|---|---|
| Computer | 4 | 2 |
| Wine | 1 | 3 |

- Imagine a German wants to consume one unit of wine, he can either produce it by himself (3 hours of work) or buy it in the domestic market by exchanging 3/2 units of computer (3 hours of work) with one of wine.
- But if in the international marker there is a crazy Italian who exchanges one-to-one. The German will produce one unit of computer (2 hour) and will exchange it with one unit of wine sold by the crazy Italian. He saves one hour of work!!!
- **No one is crazy** (economic law)

# Policy recommendations

- Specialization and trade advantage both countries
- Therefore, the best policy is to allow producers and consumers in both countries unfettered access to goods from both countries to maximize the number of advantageous trades that can occur.
- In other words, **laissez-faire**. The policy of minimum government interference with economic activity.

# Comparative advantage

- Built on the ideas of David Ricardo
- Imagine that a country has an absolute advantage in the production of both commodities
- Is international trade still possible?
- Recall international trade is the result of a voluntary activity thus it should be founded on a mutual benefit for the participating countries.

# The law of comparative advantage

- The law of comparative advantage shows how mutually beneficial specialization and trade may be driven by relative advantages in production rather than absolute advantages in production.
- Given the somewhat counter-intuitive nature of the law of comparative advantage its implications are best seen through example.

# Comparative advantage

| | Italy | Germany |
|---|---|---|
| Computer | 8 | 2 |
| Wine | 2 | 1 |

- In Germany, a computer costs 8-2/2=4/2=200% less than in Italy, whereas a unit of wine costs 2-1/1=100% less than in Italy. Thus, Germany has a comparative advantage in the sector of computers (Italy in the sector of wine).
- In Italy, in fact, a computer costs 8-2/8=75% more than in Germany, whereas a unit of wine costs 2-1/2=50% more than in germany. Less disadvantage in the sector of wine with respect to computer,

# Comparative advantage

| | Italy | Germany |
|---|---|---|
| Computer | 8 | 2 |
| Wine | 2 | 1 |

- The Comparative Advantage can be indicated as
  - 8/2 means that in Italy computers cost 8/2=200% more than wine
  - 2/1 means that in Germany computers cost 2/1=100% more than wine
- Germany (Italy) has a comparative advantage in the computer (wine) production.

# Comparative advantage

| | Italy | Germany |
|---|---|---|
| Computer | 8 | 2 |
| Wine | 2 | 1 |

- The domestic exchange rate (relative price) is 8/2=4 (four units of wine for 1 computer) in Germany 2/1=2 (two units of wine for 1 computer).
- As said it also measure the comparative advantage in the sector of computer with respect to that of wine.
- Two necessary conditions.
  - Different Comparative Advantages (4 and 2)
  - An international price in the middle (e.g., 3).

# Comparative advantage

| | Italy | Germany |
|---|---|---|
| Computer | 8 | 2 |
| Wine | 2 | 1 |

- Imagine an Italian wants to consume one unit of computer, he can either produce it by himself (8 hours of work) or buy it in the domestic market where it cost 4 units of wine (8 hours of work)
- But if in the international marker there is a crazy German who exchanges it for 3 units of wine, the Italian will produce tree units of wine (6 hour) and will exchange them with one computer sold by the crazy German. He saves 2 hours of work!!!
- **The Italian prefers the international market**, is the German crazy?

# Comparative advantage

| | Italy | Germany |
|---|---|---|
| Computer | 8 | 2 |
| Wine | 2 | 1 |

- Imagine that now a German wants to consume one unit of wine, he can either produce it by himself (1 hours of work) or buy it in the domestic market where it cost 1/2 units of computers (1 hours of work)
- But if in the international marker there is a crazy Italian who exchanges one unit of computer for 3 units of wine, the German can have one unit of wine with 1/3 of computer (2/3 of hour of work) and saves 1/3 hours of work!!!
- **The German prefers the international market**

# The international price

- How id the international price determined?
  - Demand and supply interaction
- Who does gain from a change of the international price?
  - An change of the international price means that one commodity costs more in term of the other one. Thus, the country that export the commodity with the relative price increased gains!!!
  - In our example: 3=>4 (4 units of wine for 1 computer?), who does export computers?

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# Policy recommendations

- Laissez-faire still holds
- Gains need not be equal
- Hours of work traded need not be equal but the advantage still exists
- Trade is based on the existence of relative – not absolute – production advantages