

Imagine a society that produces capital goods and consumer goods.

1. Draw a production possibilities frontier for capital goods and consumer goods. Using the concept of opportunity cost, explain why it most likely has a bowed-out shape.
2. Show a point that is impossible for the economy to achieve. Show a point that is possible to achieve but inefficient.
3. Identify a point that is productively efficient and explain why it is productively efficient.
4. Define allocative efficiency. Identify a point that might be allocatively efficient and explain what must be true for this to be an allocatively efficient outcome.

Specialization and Comparative Advantage

- **Basic Principle**
- **Comparative Costs**
- **Terms of Trade**
- **Gains from Specialization
& Trade**

Economic Basis for Trade

Distribution of Economic Resources

***Different Technologies and/or
Resources***

Labor-intensive Commodities

Land-intensive Commodities

Capital-intensive Commodities

Definitions

Absolute Advantage: This condition exists when one nation has the ability to produce a good more efficiently than another nation.

Comparative Advantage: This condition exists when one nation can produce a good with a lower opportunity cost than another.

Principle of Comparative Advantage

Total output will be greatest and both countries will benefit when each good is produced by that nation which has the lowest domestic opportunity cost for that good (i.e., the comparative advantage).

Input Problem

Country	Labor Hours Needed to Produce One Unit of	
	Wheat	Cloth
Portugal	10	20
England	20	60

Using the information above and the principle of comparative advantage, determine the following for each country:

- Opportunity cost of producing one unit of wheat
- Opportunity cost of producing one unit of cloth
- The good that the country should specialize in producing

Solution

Portugal

- a. Opportunity cost of wheat = $10/20 = 1/2$ cloth
- b. Opportunity cost of cloth = $20/10 = 2$ wheat
- c. Produce cloth

England

- a. Opportunity cost of wheat = $20/60 = 1/3$ cloth
- b. Opportunity cost of cloth = $60/20 = 3$ wheat
- c. Produce wheat

Output Problem

Total possible production
in one year in tons

Country	Coffee	Wheat
U.S.	30	30
Brazil	20	10

Using the information above and the principle of comparative advantage, determine the following for each country:

- Opportunity cost of producing one unit of coffee
- Opportunity cost of producing one unit of wheat
- The good that the country should specialize in producing

Solution

U.S.

- a. Opportunity cost of wheat = $30/30 = 1$ coffee
- b. Opportunity cost of coffee = $30/30 = 1$ wheat
- c. Produce wheat

Brazil

- a. Opportunity cost of wheat = $20/10 = 2$ coffee
- b. Opportunity cost of coffee = $10/20 = \frac{1}{2}$ wheat
- c. Produce coffee

Terms of Trade

- The U.S. will only specialize and trade if it receives favorable terms of trade.
- So, how do we determine the international price of coffee and wheat (the terms of trade)?

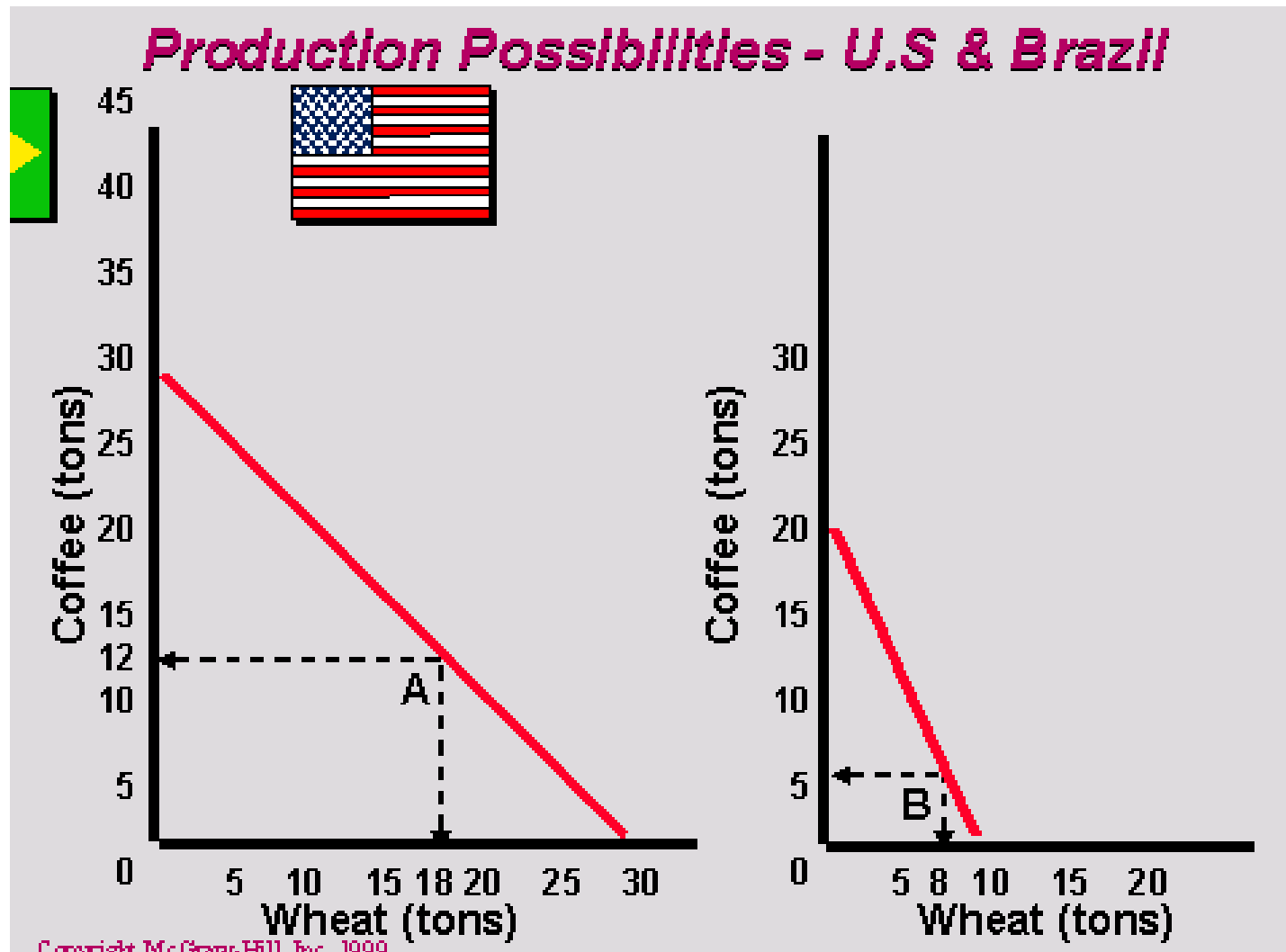
Terms of Trade

- The U.S. can convert one unit of wheat into one unit of coffee ($1c = 1w$) without trading. Therefore, it must be able to obtain more than one unit of coffee from Brazil in trade for one unit of wheat, if it is to gain from trade.
- Brazil can convert one unit of coffee into a $\frac{1}{2}$ unit of wheat ($1c = \frac{1}{2} w$) without trading. It must be able to obtain more than a $\frac{1}{2}$ unit of wheat in trade for 1 unit of coffee, if it is to gain from trade.
- What are the terms of trade that will prevail?

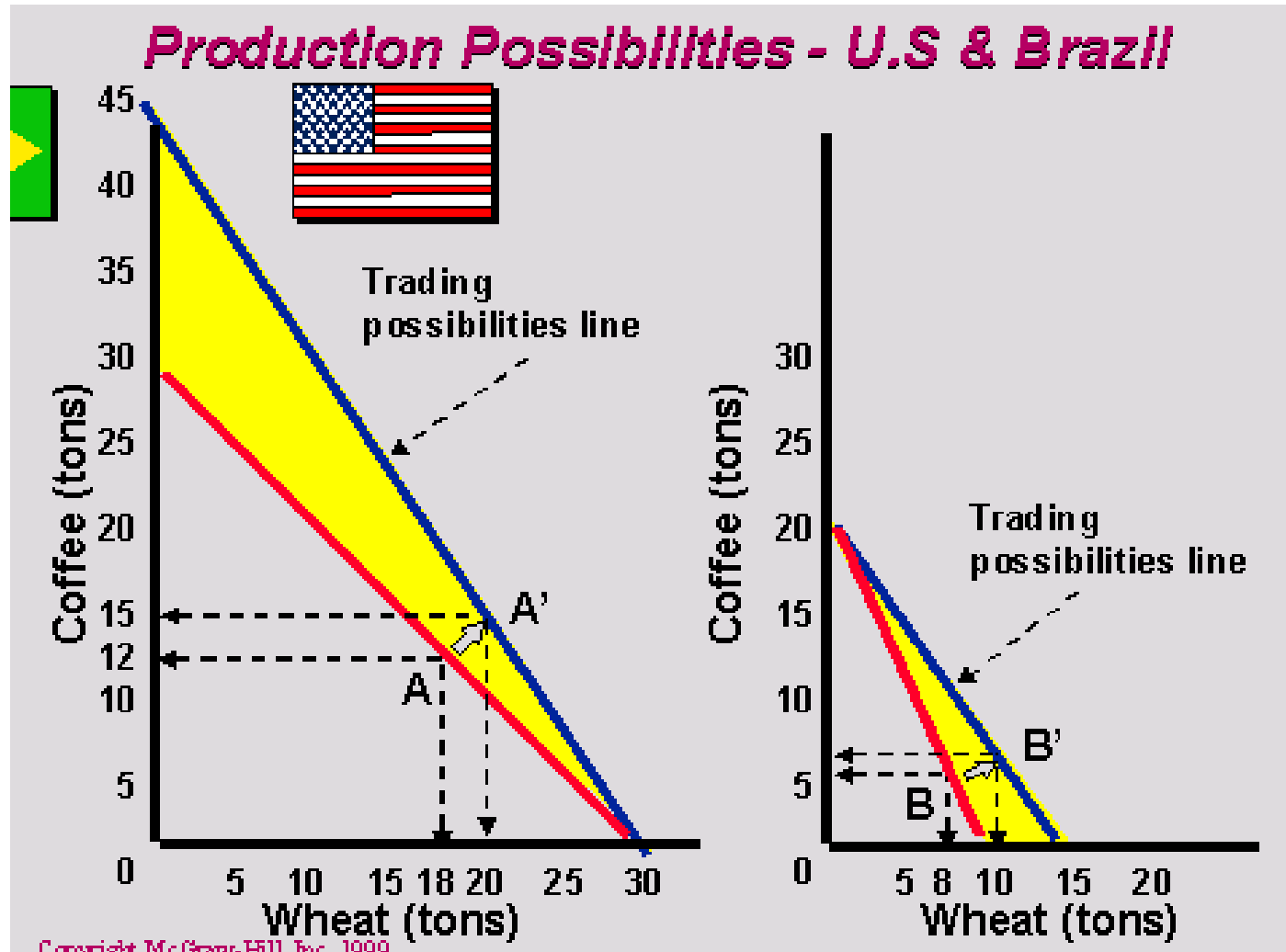
Terms of Trade

- The international price, or terms of trade, must lie between the U.S. opportunity cost of $1c = 1w$ and the Brazilian opportunity cost of $1c = \frac{1}{2} w$.
- Terms of trade: $1w > 1c > \frac{1}{2} w$
- The actual price will depend on international forces of supply and demand. For convenience, let us choose $1c = \frac{2}{3} w$ or $1w = \frac{3}{2} c$.

Original Production Possibilities



Production Possibilities with Trade



ACTIVE LEARNING:

Absolute & comparative advantage

Argentina and Brazil each have 10,000 hours of labor per month, and the following technologies:

Argentina

- producing one pound coffee requires 2 hours
- producing one bottle wine requires 4 hours

Brazil

- producing one pound coffee requires 1 hour
- producing one bottle wine requires 5 hours

Which country has an absolute advantage in the production of coffee? Which country has a comparative advantage in the production of wine?

ACTIVE LEARNING:

Answers

Brazil has an absolute advantage in coffee:

- Producing a pound of coffee requires only one labor-hour in Brazil, but two in Argentina.

Argentina has a comparative advantage in wine:

- Argentina's opp. cost of wine is two pounds of coffee, because the four labor-hours required to produce a bottle of wine could instead produce two pounds of coffee.
- Brazil's opp. cost of wine is five pounds of coffee.