Interdependence and the Gains from Trade

- How do we satisfy our wants and needs in a global economy?
  - We can be economically *self-sufficient*.
  - We can *specialize and trade* with others, leading to economic interdependence.
- Individuals and nations rely on specialized production and exchange as a way to address problems caused by scarcity.
- But this gives rise to two questions:
  - Why is interdependence the norm?
  - ⇨ Interdependence occurs because people are better off when they specialize and trade with others.
  - What determines production and trade?
  - ⇨ Patterns of production and trade are based upon differences in opportunity costs.

Interdependence and the Gains from Trade

Example:

- only two goods: potatoes and meat
- only two people: a potato farmer and a cattle rancher
- What should each produce?
- Why should they trade?

	Minutes Needed to Make 1 Ounce of:		Amount of Meat or Potatoes Produced in 8 Hours	
	Meat	Potatoes	Meat	Potatoes
Farmer	60 min/oz	15 min/oz	8 oz	32 oz
Rancher	20 min/oz	10 min/oz	24 oz	48 oz

Interdependence and the Gains from Trade

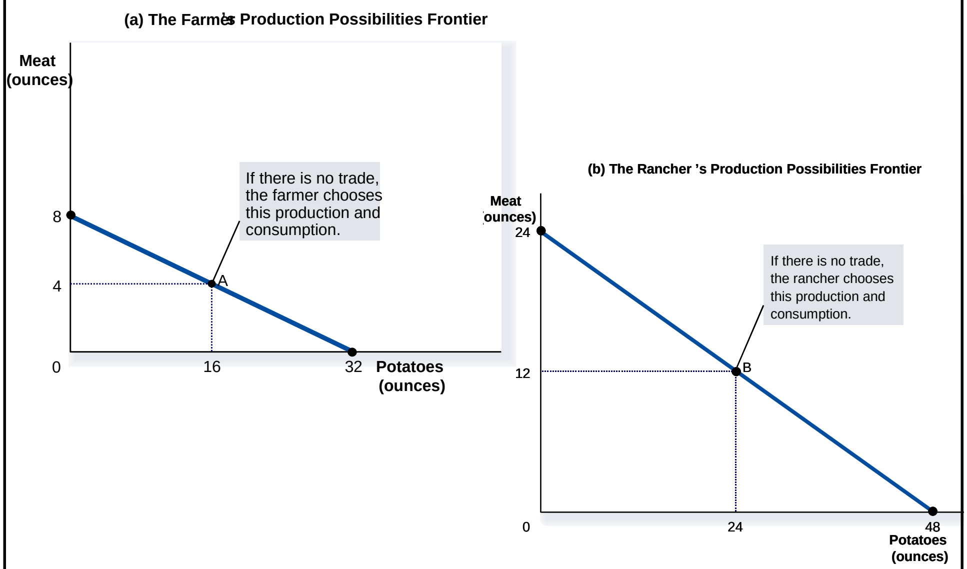
Farmer and Rancher face 2 production possibilities:
Self-Sufficiency or *Specialization and Trade*

1st Production Possibility: Self-Sufficiency

By ignoring each other:

- Each consumes what they each produce.
- The production possibilities frontier is also the consumption possibilities frontier.
- Without trade, economic gains are diminished.

Production Possibility Curve

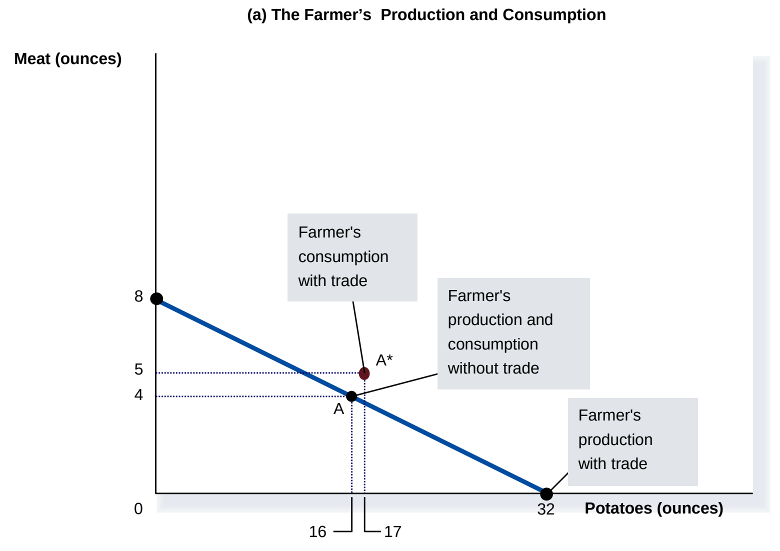


Interdependence and the Gains from Trade

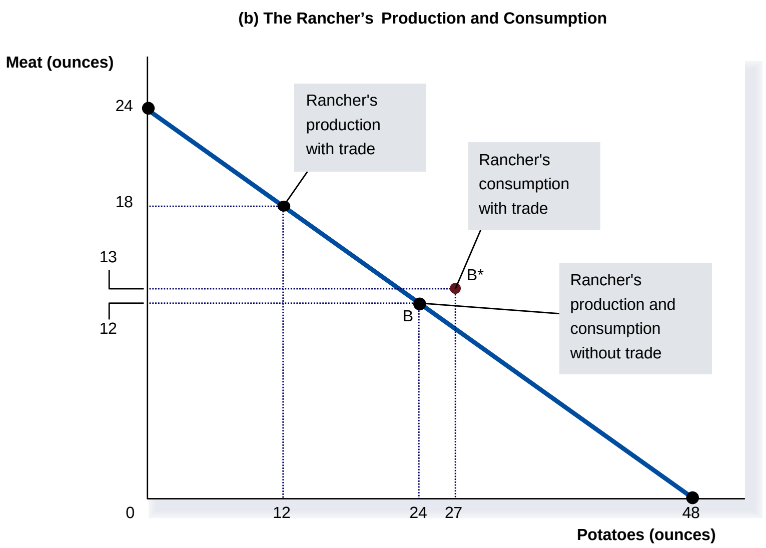
2nd Production Possibility: Specialization and Trade

- The Farmer and the Rancher Specialize and Trade
- Each would be better off if they specialized in producing the product they are more suited to produce, and then trade with each other.
- The farmer should produce potatoes.
- The rancher should produce meat.

Trade Expands the Set of Consumption Opportunities



Trade Expands the Set of Consumption Opportunities



Trade Expands the Set of Consumption Opportunities

	Farmer		Rancher	
	Meat	Potatoes	Meat	Potatoes
Without Trade:				
Production and Consumption	4 oz	16 oz	12 oz	24 oz
With Trade:				
Production	0 oz	32 oz	18 oz	12 oz
Trade	Gets 5 oz	Gives 15 oz	Gives 5 oz	Gets 15 oz
Consumption	5 oz	17 oz	13 oz	27 oz
Gains from Trade:				
Increase in Consumption	+1 oz	+1 oz	+1 oz	+3 oz

Differences in the Costs of Production

- Differences in the costs of production determine the following:
  - Who should produce what?
  - How much should be traded for each product?
- Two ways to measure differences in costs of production:
  1. The number of hours required to produce a unit of output (for example, one pound of potatoes).
  2. The opportunity cost of sacrificing one good for another.

Differences in the Costs of Production

1. ABSOLUTE ADVANTAGE

- The comparison among producers of a good according to their productivity: absolute advantage
- Describes the productivity of one person, firm, or nation compared to that of another.
- The producer that requires a smaller quantity of inputs to produce a good is said to have an *absolute advantage* in producing that good.
- The Rancher needs only 10 minutes to produce an ounce of potatoes, whereas the Farmer needs 15 minutes.
- The Rancher needs only 20 minutes to produce an ounce of meat, whereas the Farmer needs 60 minutes.

⇨ The Rancher has an absolute advantage in the production of both meat and potatoes.

Differences in the Costs of Production

2. Opportunity Cost and Comparative Advantage

- Compares producers of a good according to their opportunity cost.
- The producer who has the smaller opportunity cost of producing a good is said to have a *comparative advantage* in producing that good.

	Opportunity Cost of	
	1 oz of Meat	**1 oz of Potatoes**
Farmer	**4 oz potatoes**	**1/4 oz meat**
Rancher	**2 oz potatoes**	**1/2 oz meat**

Principle of comparative advantage

Comparative Advantage and Trade

- The Farmer’s opportunity cost of an ounce of potatoes is 1/4 an ounce of meat, whereas the Rancher’s opportunity cost of an ounce of potatoes is 1/2 an ounce of meat.
- The Farmer’s opportunity cost of a ounce of meat is 4 ounces of potatoes, while the Rancher’s opportunity cost of an ounce of meat is only 2 ounces of potatoes.
- …so, the Rancher has a comparative advantage in the production of meat but the Farmer has a comparative advantage in the production of potatoes.

Principle of comparative advantage

Comparative Advantage and Trade

- Comparative advantage and differences in opportunity costs are the basis for specialized production and trade.
- Whenever potential trading parties have differences in opportunity costs, they can each benefit from trade.

Benefits of Trade

- Trade can benefit everyone in a society because it allows people to specialize in activities in which they have a comparative advantage.

Review Question

⇨ One of the most frequently occurring mistakes when evaluating international trade attributes to the confusion between comparative and absolute advantages.

- Please comment on this statement and describe both advantages.
- Which advantage determines trade?