

Absolute & Comparative Advantage

How do business and countries determine what to produce and when to compete?

Let's imagine mini economy with two producers, Sally and John. These two producers produce only two products salsa and chips. To calculate absolute advantage Sally and John only produce one product. Their production possibilities are recorded. Then, Sally and John only produce the other product. These production possibilities are recorded. The production possibilities for Sally and John are shown in the table below.

	<i>Making Only Chips</i>		<i>Making Only Salsa</i>	
	Salsa	Chips	Salsa	Chips
Sally	0	10	10	0
John	0	5	15	0

Who has absolute advantage?

- Sally has an absolute advantage over John in the production of chips because she is able to produce 10 chips, while John is only able to produce 5.
- In contrast, John has an absolute advantage in the production of salsa because he is able to produce 15 units of salsa while Sally is only able to produce 10.

Specialization

If both John and Sally specialize in producing the product that they are more efficient at producing, overall production will increase.

Really?

If they weren't allowed to trade, each might spend half their time making each good.

- Sally would spend half the time making chips and half a time making salsa.
- John would do the same.
- If they split their time, Sally would have 5 bags of salsa and 5 bags of chips (divide the numbers in the chart in half).
- John would have 2.5 bags of chips and 7.5 jars of salsa.
- So the total output for both would be 12.5 jars of salsa and 7.5 bags of chips.

They should definitely trade. If both specialized in production of one good, the total output of the economy will be 15 jars of salsa and 10 bags of chips, which is higher. See the table below.

	<i>No Trade</i>		<i>Yes Trade (same as above)</i>	
	Salsa	Chips	Salsa	Chips
Sally	5	5	0	10
John	7.5	2.5	15	0
Total Output	12.5	7.5	15	10

Comparative Advantage

What if John was better at making both salsa and chips are there still gains from trade? In many cases the US is better at making most goods, so why should the US trade? Does it still make sense for them to specialize? And if it does, who should specialize in what?

Let's imagine that Sally and John now have the following production possibilities:

	<i>Making Only Chips</i>		<i>Making Only Salsa</i>	
	Salsa	Chips	Salsa	Chips
Sally	0	10	10	0
John	0	12	15	0

John is much more efficient at making everything. He has absolute advantage in both goods but that doesn't mean there's no reason for Sally and John to trade or focus their production.

Why?

The decision is now based on who has the higher opportunity cost of production for each good. Calculate the opportunity cost for both Sally and John.

- To calculate opportunity cost, you are trying to figure out, what am I “giving up” to produce this other thing?
- So, divide the number of salsas by chips to determine the “cost” of creating one unit of salsa.

o $\text{Units of X} / \text{Units of Y} = \text{Cost of X}$

	<i>Production Possibilities</i>		<i>Opportunity Cost of Production</i>	
	Salsa	Chips	Salsa	Chips
Sally	10	10	1 bag of chips	1 jar of salsa
John	15	12	0.8 bags of chips	1.25 jars of salsa

Looking at the table, **John has a lower opportunity cost for producing salsa.** Producing salsa will cost him 0.8 bags of chips, or to produce one jar of salsa, he won't be able to make 0.8 bags of chips. For Sally, every jar of salsa she gives up making an entire bag of chips.

On the other hand, **Sally has a lower opportunity cost for producing chips.** It will only cost her one jar of salsa, where as it will cost John 1.25 jars.

So is that actually better for overall production?

Yes! Assume again that they can't trade and they each spend half of their time on each good. Sally would have 5 bags of chips and 5 jars of salsa, and John would have 6 bags of chips and 7.5 jars of salsa. That would mean the **total output of the economy would be 11 bags of chips and 12.5 jars of salsa.**

Now what if they trade? **If both specialized in production, the total output of the economy would be 10 bags of chips and 15 jars of salsa.** Wait . . . that's fewer bags of chips than before. How is that better?

	<i>No Trade</i>		<i>Yes Trade</i>	
	Salsa	Chips	Salsa	Chips
Sally	5	5	0	10
John	7.5	6	15	0
Total Output	12.5	11 (!)	15	10 (!)

Imagine that John decides he doesn't want to spend ALL his time making salsa. Say he makes 2 fewer jars of salsa. That means he can make $2 \times 0.8 = 1.6$ bags of chips. That **brings the total output of the economy to 11.6 bags of chips and 13 jars of salsa**, which is higher than our total output was before we considered the option of trade.

	<i>No Trade</i>		<i>Yes Trade</i>	
	Salsa	Chips	Salsa	Chips
Sally	5	5	0	10
John	7.5	6	13	1.6
Total Output	12.5	11	13	11.6

So allowing for trade DOES increase our overall production, even when someone has absolute advantage in both goods.

Practice Problem

Directions: Examine the table and determine which country has the comparative advantage (these statistics are made up).

	<i>Making Only</i>		<i>Making Only</i>	
	Cars	TVs	Cars	TVs
USA	0	20	21	0
China	0	25	32	0

Plug in the **production possibilities**, or the number of products it is “possible” to make if each country only focused on one product (drawn from the table above). Then, calculate the **opportunity cost**.

- To calculate opportunity cost, you are trying to figure out, what am I “giving up” to produce this other thing?
- So, divide the number of cars by TVs to determine the “cost” of creating one car (and vice versa). *The cost of producing one car is x TVs.*
 - Units of X / Units of Y = Cost of X**

	<i>Production Possibilities</i>		<i>Opportunity Cost of Production</i>	
	Cars	TVs	Cars	TVs
USA			TVs	Cars
China			TVs	Cars

Determine the total output both in situations where the two don’t trade with one another and when they do. **Remember, when countries don’t trade, they are dividing their “production possibilities” in half. When they do trade, the numbers represent how production would be divided if each country specialized.**

	<i>No Trade</i>		<i>Yes Trade</i>	
	Cars	TVs	Cars	TVs
USA				
China				
Total Output				

Does total trade need to be adjusted in order to beat out the “no trade” version of total output? How so?