. A Parable for the Modern Economy

A. Example: two goods—meat and potatoes; and two people—a cattle rancher and a potato farmer (each of whom likes to consume both potatoes and meat).

1. The gains from trade are obvious if the farmer can only grow potatoes and the rancher can only raise cattle.

2. The gains from trade are also obvious if, instead, the farmer can raise cattle as well as grow potatoes, but he is not as good at it and the rancher can grow potatoes in addition to raising cattle, but her land is not well suited for it.

3. The gains from trade are not as clear if either the farmer or the rancher is better at producing both potatoes and meat.

	Minutes Needed to Make One Ounce of:		**Amount Produced in Eight Hours**	
	Meat	**Potatoes**	**Meat**	**Potatoes**
Farmer	60 min./oz.	15 min./oz.	8/1=8 oz.	8/0.25=22 oz.
Rancher	20 min./oz.	10 min./oz.	8/0.33=24 oz.	8/0.16=48 oz.

B. Production Possibilities

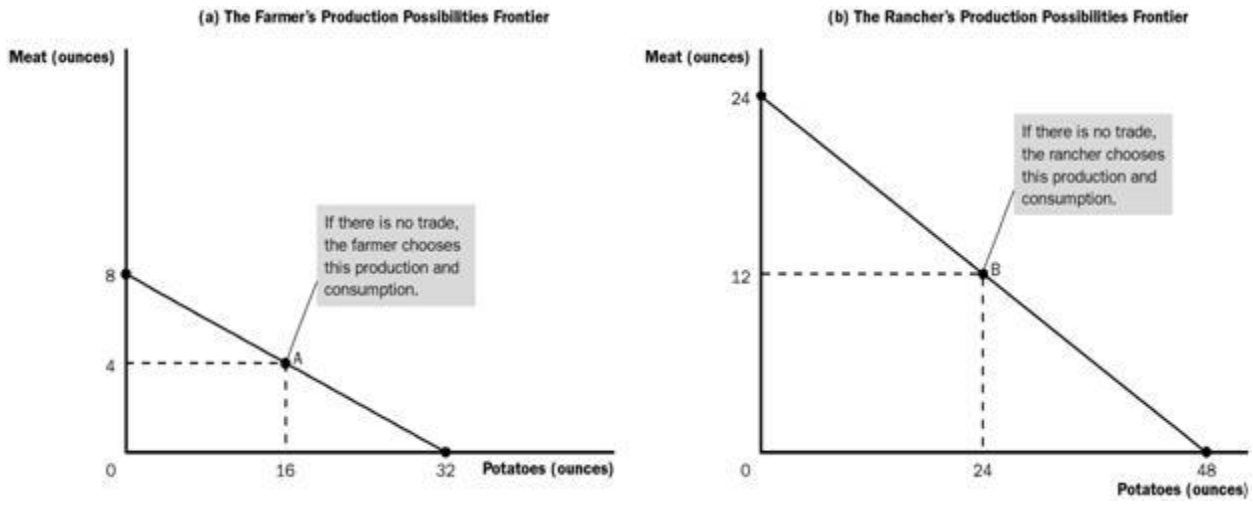
1. The farmer and rancher both work eight hours per day and can use this time to grow potatoes, raise cattle, or both.

2. Table 1 shows the amount of time each takes to produce one ounce of either good:

3. The production possibilities frontiers can also be drawn.

a. These production possibilities frontiers are drawn linearly instead of being bowed out. This assumes that the farmer's and the rancher's technology for producing meat and potatoes allows them to switch between producing one good and the other at a constant rate.

4. We will assume that the farmer and rancher divide their time equally between raising cattle and growing potatoes.



a. The farmer produces (and consumes) at point A—16 ounces of potatoes and 4 ounces of meat.

b. The rancher produces (and consumes) at point B—24 ounces of potatoes and 12 ounces of meat.

You should understand that these production possibilities frontiers represent the farmer's and the rancher's consumption possibilities because we are assuming that there is no trade.

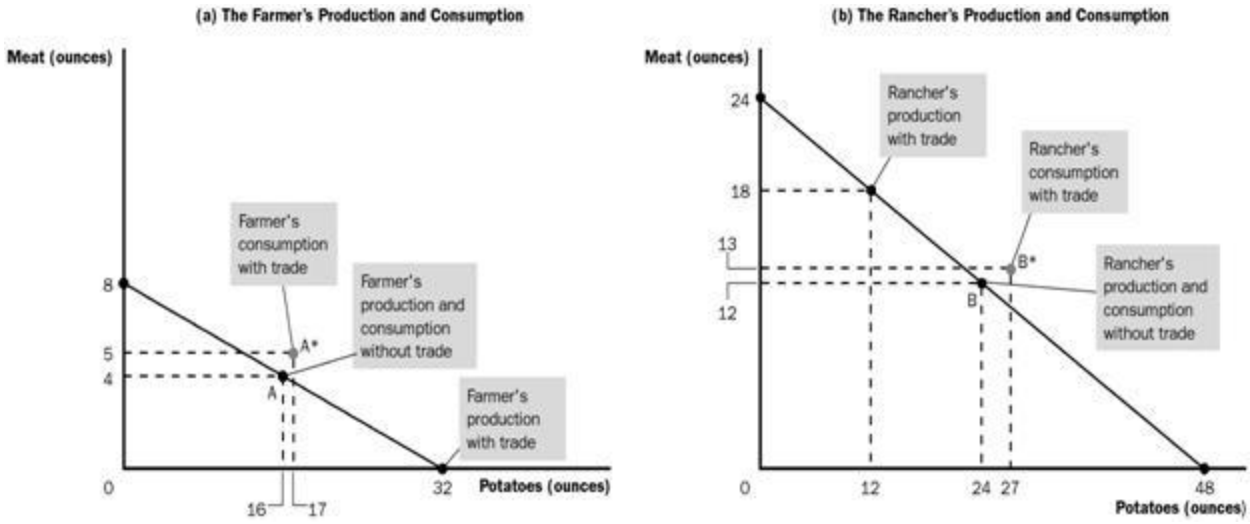
C. Specialization and Trade

1. Suppose the rancher suggests that the farmer specialize in the production of potatoes and then trade with the rancher for meat.

a. The rancher will spend six hours a day producing meat (18 ounces) and two hours a day growing potatoes (12 ounces).

b. The farmer will spend eight hours a day growing potatoes (32 ounces).

c. **The rancher will trade 5 ounces of meat for 15 ounces of potatoes.**



2. End results:

a. The rancher produces 18 ounces of meat and trades 5 ounces, leaving him with 13 ounces of meat. He also grows 12 ounces of potatoes and receives 15 ounces in the trade, leaving him with 27 ounces of potatoes.

b. The farmer produces 32 ounces of potatoes and trades 15 ounces, leaving him with 17 ounces. He also receives 5 ounces of meat in the trade with the rancher.

3. In both cases, they are able to consume quantities of potatoes and meat after the trade that they could not reach before the trade.

II. Comparative Advantage: The Driving Force of Specialization

A. Absolute Advantage

1. Definition of **absolute advantage: the ability to produce a good using fewer inputs than another producer does.**

2. The rancher has an absolute advantage in the production of both potatoes and meat.

B. Opportunity Cost and Comparative Advantage

1. Definition of opportunity cost: whatever must be given up to obtain some item.

a. For the rancher, it takes ten minutes to produce one ounce of potatoes. Those same ten minutes could be used to produce

one-half ounce of meat. Thus, the opportunity cost of producing an ounce of potatoes is one-half ounce of meat.

b. For the farmer, it takes 15 minutes to produce one ounce of potatoes. Those same 15 minutes could be used to produce one-fourth ounce of meat. Therefore, the opportunity cost of producing one ounce of potatoes is one-fourth ounce of meat.

c. The opportunity cost of producing one ounce of meat is the inverse of the opportunity cost of producing one ounce of potatoes.

2. Definition of **<u>comparative advantage</u>: the ability to produce a good at a lower opportunity cost than another producer.**

a. The farmer has a lower opportunity cost of producing potatoes and therefore has a comparative advantage in the production of potatoes.

b. The rancher has a lower opportunity cost of producing meat and therefore has a comparative advantage in the production of meat.

3. Because the opportunity cost of producing one good is the inverse of the opportunity cost of producing the other, it is impossible for a person to have a comparative advantage in the production of both goods.

C. Comparative Advantage and Trade

1. When specialization in a good occurs (assuming there is a comparative advantage), total output will grow.

2. As long as the opportunity cost of producing the goods differs across the two individuals, both can gain from specialization and trade.

a. The farmer buys 5 ounces of meat with 15 ounces of potatoes. This implies that the price of each ounce of meat is three ounces of potatoes, which is lower than the farmer's opportunity cost of four ounces of potatoes. Trade is beneficial to the farmer.

b. The rancher buys 15 ounces of potatoes for 5 ounces of meat. The price of each ounce of potatoes is one-third ounce of meat. This is lower than the rancher's opportunity cost of one-half ounce of meat. Trade also benefits the rancher.

Production Possibility Frontier