

3. How Do People and Nations Gain from Specialization and Trade?

Remember Alexander Selkirk? He was the castaway you read about in Chapter 2 who was stranded on a desert island in the early 1700s. Because Selkirk was alone and had no contact with the outside world, he had no chance to improve his standard of living through trade.

Suppose, however, that a second castaway, Pirate Jack, washed up on the island one day. Now Selkirk would not only have someone to talk to; he would also have a potential trading partner. But would trade make life better for either Selkirk or Pirate Jack? To find out, consider the following scenario.

The Castaways' Dilemma: Self-Sufficiency or Interdependence

Shortly after Pirate Jack's arrival, Selkirk tells him about the island's two main economic activities: gathering wild turnips and digging clams. Right away, the castaways face a critical question: would they be better off working separately and fending for themselves or joining forces and working together?

As it turns out, Pirate Jack is a more efficient worker than Selkirk. He is younger, stronger, and better at almost everything, including gathering turnips and digging clams. As a result, he enjoys an [absolute advantage](#) in food production.

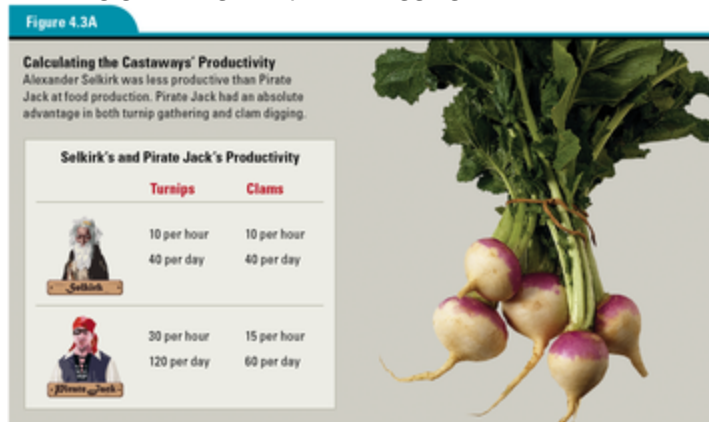


Figure 4.3A shows how many turnips and clams each castaway is able to collect in a given amount of time. Selkirk can gather 10 turnips or dig 10 clams in one hour, for a total of 40 turnips or 40 clams in a four-hour workday. Pirate Jack can gather 30 turnips or dig 15 clams in an hour. In four hours, he can collect 120 turnips or 60 clams.

At first, the two men decide to work together and equally share the food they produce. Pirate Jack soon begins to wonder, however, whether he might be better off moving to the other side of the island and working for himself. Based on his absolute advantage as a food producer, he concludes that it is in his interest to go it alone. At the time, three centuries ago, most people would have agreed with Pirate Jack's decision.

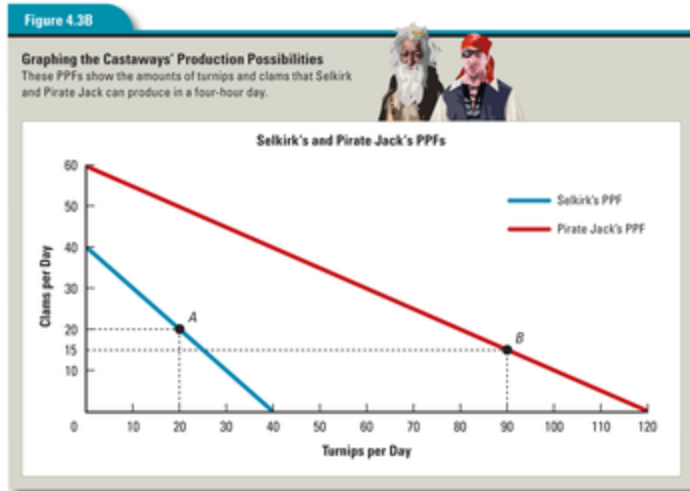
What Pirate Jack Missed: The Benefits of Comparative Advantage

A century later, however, new economic insights might have led Pirate Jack to a different conclusion. Those insights came from the pioneering work of the English economist David Ricardo, who, in 1817, developed the theory of comparative advantage.

[Comparative advantage](#) is defined as the ability to perform a task at a lower opportunity cost than someone else is able to perform that task. Opportunity cost, you will remember, is the value of what you give up to do something. As a producer, you have an absolute advantage if the time and labor required for you to produce something is less than it is for another producer. But you have a comparative advantage if your opportunity cost is less than another producer's opportunity cost. Ricardo's breakthrough was to see that, regardless of absolute advantage, people could benefit from specializing in those activities in which they had a comparative advantage.

Ricardo developed this principle in response to new English import tariffs known as Corn Laws. These tariffs placed a tax on imported grain in order to raise its price and protect English grain growers, who could not compete with cheaper foreign grain. This tariff helped farmers and wealthy landowners. But it hurt factory workers, who could not grow their own food and had to pay more for their bread.

Ricardo argued that allowing cheap grain to enter England would force the English to cut back on grain production and to instead concentrate their resources on manufacturing, which was increasingly where their advantage lay. In other words, English producers should specialize in goods in which they had a comparative advantage and then trade with foreign producers. The results, Ricardo said, would benefit society as a whole.

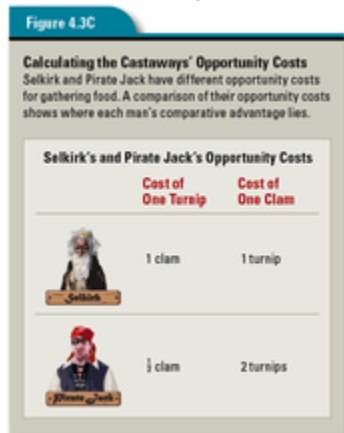


Calculating the Opportunity Costs of Going It Alone

The production possibilities frontiers (PPFs) in Figure 4.3B show how Ricardo's theory can be applied to Selkirk and Pirate Jack. Remember that a PPF shows how much of two products or services a person or an economy can produce in a given amount of time.

Selkirk's PPF shows that he can produce 40 turnips or 40 clams in four hours. If he divides his time between the two activities, he can produce a combination of turnips and clams in varying amounts. For example, Point A on the graph indicates that Selkirk can collect 20 turnips and 20 clams in a typical workday.

According to Pirate Jack's PPF, in addition to his daily rate of 120 turnips or 60 clams, he can produce mixed quantities, such as 90 turnips and 15 clams. This mixed quantity is represented by Point B.



The PPFs clearly show Pirate Jack's absolute advantage in food production. But do they indicate any comparative advantage for either Selkirk or Pirate Jack? To answer this question, we must first calculate the opportunity cost associated with each activity.

Selkirk's data show that for every 10 turnips he gathers, he gives up the opportunity to dig 10 clams. So his opportunity cost for each turnip is 1 clam, and his opportunity cost for each clam is 1 turnip.

Pirate Jack has different opportunity costs. For every 30 turnips he gathers, he gives up the opportunity to dig 15 clams. That means that Pirate Jack's opportunity cost for each turnip is 1/2 clam, while his opportunity cost for each clam is 2 turnips. The opportunity costs for both men are shown in Figure 4.3C.



As the table above shows, Pirate Jack's opportunity cost for gathering turnips is lower than Selkirk's: 1/2 clam for Pirate Jack versus 1 clam for Selkirk. This gives Pirate Jack a comparative advantage over Selkirk in gathering turnips. On the other hand, Selkirk's opportunity cost for digging clams is lower: 1 turnip for Selkirk versus 2 turnips for Pirate Jack. This means that Selkirk has a comparative advantage over Pirate Jack in digging clams, even though he does not have an absolute advantage.

Specialization Based on Comparative Advantage Benefits Both Trading Partners

According to Ricardo's theory, Selkirk and Pirate Jack should each specialize in the activity in which he has a comparative advantage. That would mean that Selkirk should dig clams and Pirate Jack should gather turnips. They could then trade with each other to obtain the product they do not produce. But would this arrangement work to their benefit?

Figure 4.3D

Calculating the Castaways' Gains from Trade
By specializing and trading, the castaways are able to produce and consume more food. Neither man, however, has to work any harder than he would if he fended for himself.

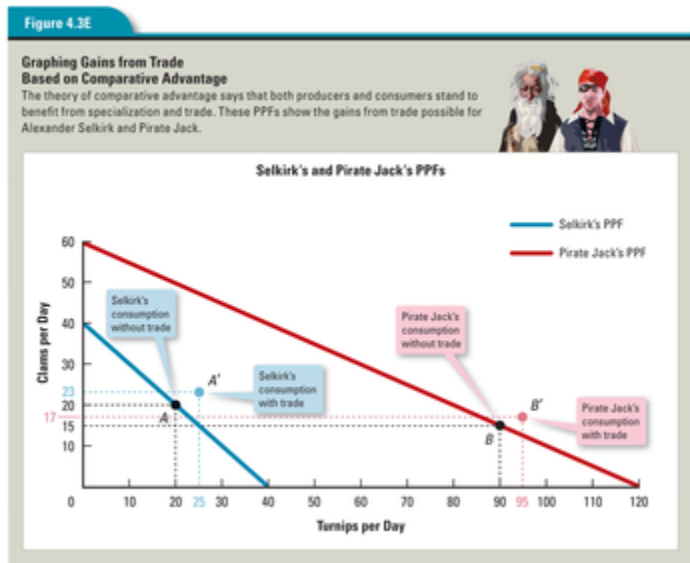
| | | Selkirk's and Pirate Jack's Gains from Trade | | | | Gains |
|---|---------|--|-------------|-------------------------------|-------------|-------|
| | | Without Specialization and Trade | | With Specialization and Trade | | |
| | | Production | Consumption | Production | Consumption | |
|  | Turnips | 20 | 20 | 0 | 25 | +5 |
| | Clams | 20 | 20 | 40 | 23 | +3 |
|  | Turnips | 90 | 90 | 120 | 95 | +5 |
| | Clams | 15 | 15 | 0 | 17 | +2 |

The table in Figure 4.3D shows how each castaway might gain from trading based on comparative advantage. The first two columns of data provide production and consumption values for both men if they do not specialize and trade. These columns contain the values represented by Points A and B from Figure 4.3B.

The next two columns show production and consumption values if the castaways agree to specialize and then trade 17 clams for 25 turnips. The production values show how much each man can produce by specializing. The consumption values indicate how much of both products the men could have if they then traded with each other.

The last column shows what each man has gained from this trade. Selkirk now has the 25 turnips he got from Pirate Jack, along with the 23 clams he did not trade. His decision to trade has resulted in a gain of 5 turnips and 3 clams.

As for Pirate Jack, after trading 25 turnips to Selkirk, he still has 95 left, 5 more than he would have had if had chosen to go it alone. He also has the 17 clams he got from Selkirk, 2 more than he would have had without trade. So both castaways have gained from specialization and trade.



The PPFs in Figure 4.3E show the original production possibilities for the castaways, along with the increased amounts they receive through trade. Those new amounts, represented by Points A' and B' , sit outside the PPF curve, thus indicating the gains the castaways have made as a result of trade.

Comparative Advantage Applies to Nations as Well as Individuals

What is true for individuals is also true for nations, including the United States. When the principle of comparative advantage is allowed to guide who produces what—for example, Florida farmers growing oranges and Idaho farmers growing potatoes—society usually benefits.

Some of the factors that give rise to comparative advantage, such as climate and natural resources, may be fairly obvious. The main reason Florida has an advantage over Idaho in orange production is that oranges grow better in warm climates. Likewise, Nevada has a comparative advantage in gold production because of its gold deposits. Saudi Arabia excels in oil production because of its abundant oil reserves, while Canada can exploit its vast forests to produce timber. When it comes to farming, mining, forestry, and fishing, geography determines where comparative advantage lies. Other factors—including education, wage levels, and technology differences—also play a role in determining comparative advantage. The United States, with its many colleges and universities, has a highly skilled, high-wage workforce. This gives the United States a comparative advantage in the development of advanced technologies, such as computer systems. Less-developed nations, on the other hand, tend to have relatively unskilled, low-wage workforces. Such countries often have a comparative advantage in the production of assembly-line goods, like clothing, that do not require highly skilled labor.

The beauty of comparative advantage, as economists see it, is that it stands to benefit all trading partners. Countries that seem to have it all—abundant natural resources, high human capital—can actually gain more by specializing in what they do best and trading with other countries. But even countries with no absolute advantages can come out ahead by finding what *they* can produce at a lower opportunity cost than other countries—their comparative advantage—and trading.

4. How Does Trade Make Us Wealthier?

The principle that trade makes people better off is fundamental to the economic way of thinking. Another way to state this principle is to say that trade raises our standard of living and makes us wealthier. To appreciate this, try imagining life without the volume of trade we enjoy today.

What would it be like? You might wake up in the morning to a cold house that your family built for itself. Because there would be no gas or electricity, which is only available through trade, you would build a fire from wood you helped to gather and chop. For breakfast you would eat food that your family produced itself, perhaps in a backyard garden. Of course, you would have no appliances to cook with—no toaster or microwave—because these things also depend on trade. You would put on clothes made at home, perhaps using wool from sheep you raised. Then, unless your family owns a horse—cars and bikes are out of the question—you would probably walk to school.

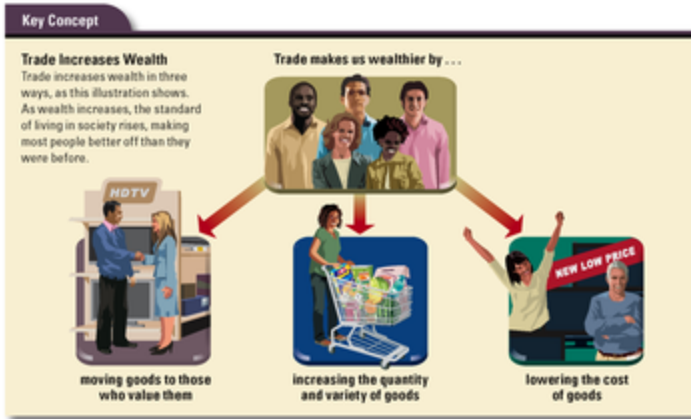
This imaginary scenario gives an idea of how much harder and poorer life would be without trade. The fact is that trade does make us wealthier. Trade does this in three main ways.

- It puts goods in the hands of those who value them.
- It increases the quantity and variety of goods.
- It lowers the cost of goods.

Trade Moves Goods to People Who Value Them

Trade can increase the value of goods, even when nothing new is produced. Think about a secondhand item you might buy at a flea market or garage sale or through an online classified ad. The fact that this item is for sale and that you are willing to buy it means that it has more value to you than to the person who is selling it. Otherwise, there would be no

exchange. Trades of this kind move goods from people who value them less to people who value them more. Even though the product has merely changed hands, its value has increased.



Here is a simple example of how a voluntary exchange can increase the value of goods. Imagine that you own a baseball cap that is practically new but does not fit you. A friend of yours owns a soccer ball she no longer wants. She wants your hat and you want her soccer ball. So you trade. Why? Because you expect to be happier or better off afterward. When we trade for things we value, our wealth increases. Most people define [wealth](#) as money and the things money can buy. But economists define wealth more broadly. Economist Michael Bade defined wealth as the total value of all the things a person owns. Notice that he did not say the total *monetary* value. This implies that wealth, which is often measured in dollars and cents, can also be measured in other ways. As economist Paul Heyne pointed out, “Wealth, in the economic way of thinking, is whatever people value,” which is another way of saying that trading for a used soccer ball can make you wealthier if a soccer ball is what you really want.

Trade Increases the Quantity and Variety of Goods Available

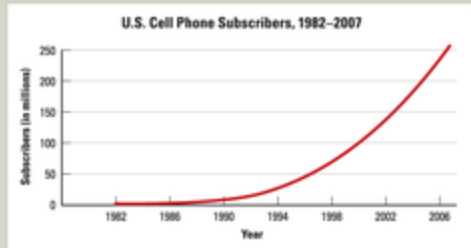
At the start of this chapter, you read about Birkhaman, the jack-of-all-trades who was skilled at many jobs. In Nepal, where he lived, modern consumer goods are relatively scarce, especially in rural areas. In contrast, the United States and other highly developed nations are awash in consumer goods of all kinds. In part, this is the result of specialization, which allows us to produce more goods for our own use and for trade with other countries. This trade, in turn, gives us access to a range of goods from around the world. As a result, the quantity and variety of goods available to us is enormous. Just think about the choices you have as a consumer. If you want to buy cheese, for example, you can go to a supermarket and choose from many different kinds. You can buy cheddar or Swiss, Brie or Colby, Monterey Jack or Camembert. And those are only a few of the choices. The variety is mind-boggling. In Nepal, however, the selection is much more limited, particularly outside the main cities. At a store in a small village, for example, there might be just one type of cheese or perhaps none at all. This is not to say that life in the United States is better than life in Nepal. The point is that in a specialized economy with abundant trade, the variety and quantity of goods are far greater. As a result, the society is wealthier, and most people are materially better off.

Trade Lowers the Cost of Goods

Figure 4.4

Assessing the Impact of Trade on Cell Phone Use

The impact of trade on the goods and services available to consumers can be seen in the evolution of the cell phone. Introduced in 1983, the first cellular phone weighed two pounds, sold for \$3,995, and did nothing but make phone calls. Today's cell phones weigh under five ounces, sell for less than \$200, take photos, send text messages, and provide access to e-mail, the Internet, television, and radio. As cell phone producers introduced smaller, cheaper phones, the number of U.S. cell phone subscribers soared.



Source: CTIA, The Wireless Association.

In addition to making more goods available, trade also lowers the cost of those goods. It can do this in two ways. First, trade lowers the cost of goods by opening markets to less costly goods from other places. Countries that have a comparative advantage in the production of certain goods may be able to provide those goods to American consumers at a lower cost than American producers can. Second, trade can lower the cost of goods by expanding markets for products. Larger markets, in turn, allow producers to take advantage of the savings that come with mass production, or large-scale manufacturing. For example, a company that produces thousands of loaves of bread each day might be able to buy its flour at a much lower cost than could a small neighborhood bakery. It can then pass those savings along to consumers by lowering the price of its bread.

Trade Creates More Winners than Losers

Overall, nations benefit by expanding trade across their borders. This is true for both rich and poor countries. As the authors of *Common Sense Economics* point out, *Expansion of world trade has made more and more goods available at economical prices. The poor, in particular, have benefited, and worldwide the income of levels of several hundred million poor people have been lifted above minimum subsistence (incomes of less than a dollar per day) during the last decade. U.S. residents, too, benefit from expanded trade. International trade is a good example of how we improve our own well-being by helping others improve theirs.* —James Gwartney, Richard Stroup, and Dwight Lee, *Common Sense Economics*, 2005

Not everyone gains from expanding global trade, however. Cheap imports from countries with a comparative advantage may take business away from American producers and even force them out of business. When U.S. factories close, American workers lose their jobs. This is one reason why workers and communities affected by plant closings often oppose free trade.

In general, however, most economists agree that expanding trade is good for Americans and the U.S. economy as a whole. Although some people are harmed by foreign competition, most Americans benefit. Furthermore, notes economist Tim Harford,

It is simply not possible for trade to destroy all of our jobs and for us to import everything from abroad and export nothing. If we did, we would have nothing to buy the imports with. For there to be trade at all, somebody in America must be making something to sell to the outside world.

—Tim Harford, *The Undercover Economist*, 2006

Economists point out that as the economy changes, old jobs may be lost, but new ones are created. If producers follow the principle of comparative advantage and specialize in businesses in which their opportunity cost is lowest, the increased trade that results should produce far more winners than losers.

If trade makes people better off, what does this mean for you? It suggests that you, too, can use comparative advantage to improve your life prospects. To find your comparative advantage, you must first decide what you like to do and can do

well. If you focus on your strengths and specialize in what you do well, you will be making use of your comparative advantage and thinking like an economist.