

## Comparative Advantage Part 1/2<sup>1</sup>

### [The Freeman: Ideas on Liberty](#)

By Dwight R. Lee

*Dwight Lee ([dlee@terry.uga.edu](mailto:dlee@terry.uga.edu)) is Ramsey Professor at the Terry College of Business, University of Georgia, and an adjunct fellow at the Weidenbaum Center on the Economy, Government, and Public Policy at Washington University in St. Louis.*

One of the most powerful and straightforward economic concepts is “comparative advantage.” As important and simple as this concept is, however, it seldom seems to inform public discussions of international trade. Almost everyone “knows” that we can’t compete with countries that have cheap labor—if we have free trade with such countries either wages will be driven down or many workers will lose their jobs. As Will Rogers once observed, “It’s not what people don’t know that is the problem, it is what they do know that’s not true.”

Understanding comparative advantage has the same effect on concerns about free trade as water had on the Wicked Witch of the West. Free trade with other countries (regardless of how much or little their workers are paid) doesn’t increase unemployment or lower wages. Indeed, one of the best ways of increasing the wages of U.S. workers is by allowing them to compete with workers (even very low paid workers) in other countries through free trade.

### **Absolute Versus Comparative Advantage**

The most straightforward case for free trade is that countries have different absolute advantages in producing goods. For example, because of differences in soil and climate, the United States is better at producing wheat than Brazil, and Brazil is better at producing coffee than the United States. Obviously both countries are better off when Americans produce wheat and exchange a portion of it for some of the coffee that Brazilians produce.

But does this mean that a country with an absolute advantage in the production of a good should always produce that good rather than import it? No, as the English economist David Ricardo first explained in the early 1800s. A country can have an *absolute* advantage in the production of a good without having a *comparative* advantage. Comparative advantage is what determines whether it pays to produce a good or import it.

Assume that there are only two goods, cars and computers, and one productive resource which is some composite of land, labor, and capital. Assume also that producing 100 cars requires two units of the productive resource (PR) in the

---

<sup>1</sup> Slightly modified for instructors and students using Common Sense Economics ([CommonSenseEconomics.com](http://CommonSenseEconomics.com))

United States and four units in Brazil, and producing 1,000 computers requires three units of PR in the United States and four in Brazil.

Thus:

	<b>U.S.</b>	<b>Brazil</b>
100 cars	2	4
1,000 computers	3	4

Americans have an absolute advantage in producing both cars and computers.

It may seem that Americans can realize no gain by trading with Brazilians. Why not produce both cars and computers here? Because it *costs* more to produce computers in the United States than in Brazil. All costs are opportunity costs. The cost of producing computers is the cars that *could* have been produced. Using the three units of PR required to produce 1,000 computers in the United States requires sacrificing the production of 150 cars. Using the four units of PR required to produce 1,000 computers in Brazil requires sacrificing only 100 cars.

So even though Americans have an absolute advantage in producing computers, Brazilians have a comparative advantage. Compared to what has to be sacrificed, Brazil produces computers for only two-thirds as much as it costs in the United States. The United States, of course, has a comparative advantage over Brazil in the production of cars. Producing 100 cars here costs 666 computers, while producing 100 cars in Brazil costs 1,000 computers.

Clearly the United States benefits from specializing in cars, which it produces more cheaply than Brazil, and trading with Brazil for some of the computers it produces more cheaply. If, for example, the United States produced both cars and computers it might devote 70 units of PR to car production and 30 units to computer production, yielding 3,500 cars and 10,000 computers. If Brazil produced both products, it might devote 56 units of PR to car production and 24 to computer production, yielding 1,400 cars and 6,000 computers. On the other hand, by specializing in their comparative advantages, the United States can produce 5,000 cars and Brazil can produce 20,000 computers, or a total of 100 additional cars and 4,000 additional computers. The United States could trade 1,450 cars to Brazil for 12,500 computers and have 50 additional cars (3,550) and 2,500 more computers (12,500), while Brazil would have 50 more cars (1,450) and 1,500 more computers (7,500). Trade is productive since it generates more output of both products.

### **Low Wages Don't Mean Low Cost**

Notice that in determining that it is less costly to produce cars in the United States and computers in Brazil, we never mentioned how much U.S. or Brazilian workers are paid. Workers in the United States will be paid more than those in

Brazil because they are more productive in our example. So in terms of output, lower wages don't mean lower costs. Indeed, asking whether U.S. or Brazilian workers are less costly ignores the relevant question: less costly doing what? U.S. workers are less costly at producing cars, but Brazilian workers are less costly at producing computers. This is true no matter what U.S. and Brazilian workers are paid.

Moreover, free trade does not cause unemployment in either the United States or Brazil. True, free trade eliminates U.S. jobs in the computer industry and Brazilian jobs in the car industry, but it increases U.S. jobs in the car industry and Brazilian jobs in the computer industry.

Furthermore, the jobs that free trade eliminates are lower-paying jobs than the ones it creates. Without free trade, the United States and Brazil would each employ workers who produce both cars and computers. This means that many workers in each country would be doing jobs in which they do not have a comparative advantage, and therefore in which they are less productive than they could be. With free trade these workers would be directed into more jobs where they are more productive and receive higher pay, since the compensation workers receive ultimately depends on how productive they are.

The concept of comparative advantage is deceptively simple. Tiger Woods surely has the potential of being one of the best caddies in the world. How many people could give you better advice on lining up a putt or selecting a club? He has an absolute advantage. But everyone knows that the opportunity cost to Tiger Woods of becoming a caddie is too high to make that a sensible option. He would be sacrificing the return from being a professional golfer, the activity in which he has a strong comparative advantage. Understanding why Tiger Woods doesn't become a caddie is enough to understand why high-paid U.S. workers benefit when free trade puts them in competition with lower-paid foreign workers.

**Reference:**

Lee, Dwight R. "[Comparative Advantage Continued](http://www.fee.org/publications/the-freeman/article.asp?aid=4962)" *The Freeman: Ideas on Liberty* - October 1999. Retrieved from the World Wide Web on 15 November 2006 at <http://www.fee.org/publications/the-freeman/article.asp?aid=4962>.

---

\*Endnote

Slightly modified for instructors and students using Common Sense Economics ([CommonSenseEconomics.com](http://CommonSenseEconomics.com))