

Principles of Microeconomics

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True or false: As women's wages have risen over the past 50 years, the opportunity cost of being a stay-at-home mother has risen.

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Would you expect to find companies developing cures for rare diseases or common ones?

1. Rare diseases
2. Common diseases

Richland and Poorland

- ▶ Every worker has 20 hours of labor to allocate between producing bread or fish
- ▶ In Richland, it takes 1 hour to produce a unit of fish and 1.5 hours to produce a unit of bread.
- ▶ In Poorland, it takes 3 hours to produce a unit of fish and 2 hours to produce a unit of bread.
- ▶ Everyone wants to eat (as many as possible) fish-sandwiches that consist of 1 unit bread and 1 unit fish each.

- ▶ 1/3 of the class lives in Richland
- ▶ 2/3 of the class lives in Poorland

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No Trade

- ▶ If you live in Richland, how many hours would it take you to produce 6 units of bread and 11 units of fish?
- ▶ If you live in Poorland, how many hours would it take you to produce 3 units of bread and 4 units of fish?

- ▶ How many sandwiches will a Richlander produce and eat?
- ▶ How many sandwiches will a Poorlander produce and eat?
- ▶ What are the Production Possibilities for a Richlander?

to find the answer...

fill out Production Report 1

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The Production Possibilities Model

- ▶ The production possibilities model can be presented in both a table and in a graph
- ▶ A production possibility table lists a choice's opportunity cost by summarizing what alternative outputs you can achieve with your inputs
- ▶ An output is a result of an activity
- ▶ An input is what you put in production process to achieve an output

Application: A Production Possibilities Table

... for a Richlander

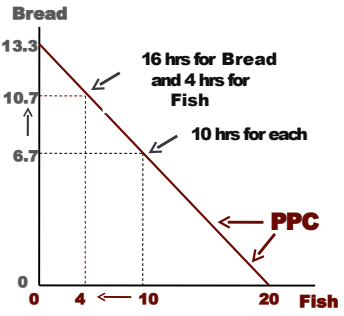
Bread		Fish	
Hrs of Production	Output	Hrs of Production	Output
20	13.33	0	0
18	12.00	2	2
16	10.67	4	4
14	9.33	6	6
12	8.00	8	8
10	6.67	10	10
8	5.33	12	12
6	4.00	14	14
4	2.67	16	16
2	1.33	18	18
0	0	20	20

The Production Possibilities Model

- ▶ A production possibility curve (PPC) is a curve measuring the maximum combination of outputs that can be obtained from a given number of inputs
- ▶ It is a graphical representation of the opportunity cost concept
- ▶ A PPC is created from a production possibility table by mapping the table in a two-dimensional graph

Write an equation that states that the number of hours required for a Richlander to produce B units of bread and F fish is equal to 20.

Application: A Production Possibilities Curve



- A PPC demonstrates:
- ▶ There is a limit to what you can achieve, given existing institutions, resources, and technology
 - ▶ Every choice you make has an opportunity cost

- ▶ Since your payoff is the minimum of B and F, it is wasteful to produce more bread than fish or more fish than bread.
- ▶ If you are a Richlander and cannot make any trades, then in order to get the largest possible payoff, you should choose B and F to satisfy two simultaneous equations:

$$B = F$$

$$20 = 1.5B + F$$

- ▶ Therefore, to get the highest possible payoff, a Richlander who cannot make any trades should produce units of bread andfish.

Free Trade

- ▶ What quantities of bread and fish do the Richlander produce?
- ▶ What quantities of bread and fish do the Poorlander produce?
- ▶ How many sandwiches will a Richlander and how many sandwiches will a Poorlander eat?

Let's find the answer with a small experiment!

First, fill out Production Report 2...

Production Report 2 — Free Trade

Now, where I can freely trade with others, I choose to produce

- ... units of fish and
- ... units of bread.

Production Report 2 — Free Trade

Now, where I can freely trade with others, I choose to produce

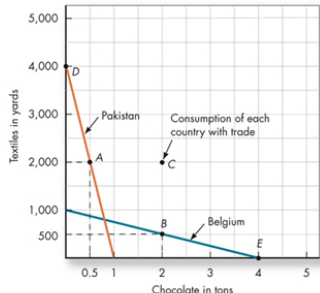
- ... units of fish and
- ... units of bread.

My payoff is the minimum of these two quantities, which is ...

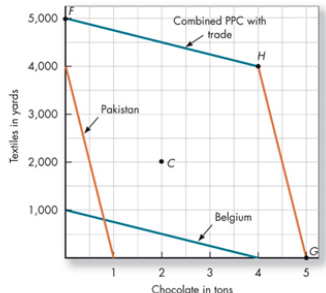
Trade.

Benefits from Trade

- ▶ When people freely enter into trade, both parties can be expected to benefit from trade
- ▶ Without trade, each country can only consume those combinations of goods along their PPCs
- ▶ The slope of the combined PPC is determined by the country with the lowest opportunity cost



(a) Gains from Trade



(b) Combined PPC

Why do we trade?

Trade increases productivity through specialization according to comparative advantage.

- ▶ A country has a comparative advantage in producing goods for which it has the lowest opportunity cost.
- ▶ Why absolute advantage does not matter
 - ▶ Just because a person or country can produce more of a good than others doesn't necessarily mean it can produce the good cheaper.
 - ▶ Even very productive countries gain when they import cheaper goods (instead of being self-sufficient)

Absolute and Comparative Advantage

- ▶ Comparative advantage is a relative not an absolute measure
- ▶ A country with an *absolute advantage* in the production of all goods does not have a comparative advantage in the production of all goods
- ▶ Example:
France and Italy both produce cheese and wine

Required hours of work for producing cheese and wine

	Cheese (1 pound)	Wine (1 gallon)
France	1	2
Italy	6	3

France has an absolute advantage in producing both products

The Toaster Project

The Toaster Project

Why do we trade?

Trade increases productivity through specialization and the division of knowledge.

- ▶ Modern economies require more knowledge than can exist in a single brain.
- ▶ Division of tasks = 'specialization' and when each person knows something different, the combined brain power of a society is HUGE.
- ▶ It makes sense to divide knowledge across many brains and then trade.
- ▶ Without trade, specialization is not possible.
- ▶ Trade connects all markets.

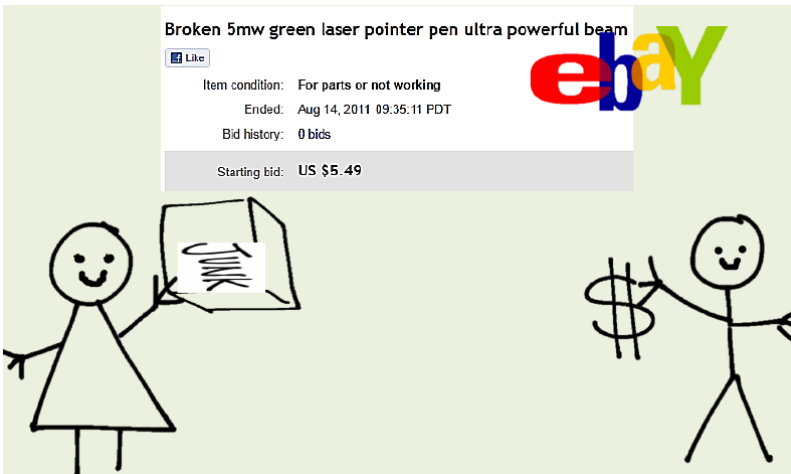
Absolute and Comparative Advantage

Required hours of work for producing cheese and wine

	Cheese (1 pound)	Wine (1 gallon)
France	1	2
Italy	6	3

- ▶ France has a comparative advantage vis-à-vis Italy in producing cheese: the costs of producing cheese are one half the costs of wine; in Italy the costs of producing cheese are twice the costs of wine
- ▶ Italy has a comparative advantage in producing wine: its costs are half the costs of cheese while in France they are twice the costs of cheese

Different Preferences



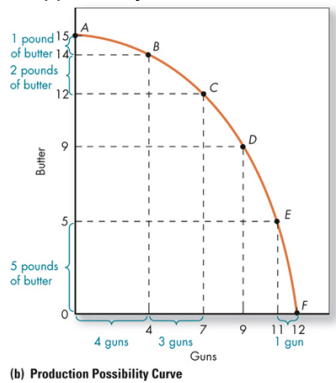
Why do we trade?

Three benefits of trade

1. Trade makes people better off when preferences differ.
2. Trade increases productivity through specialization and the division of knowledge.
3. Trade increases productivity through specialization according to comparative advantage.

Increasing Marginal Opportunity Cost

The principle of increasing marginal opportunity cost states that opportunity costs increase the more you concentrate on the activity



- ▶ Slope is flat at A
- ▶ This means there is a low opportunity cost to produce more guns
- ▶ Slope is steep at F
- ▶ This means there is a high opportunity cost to produce more guns

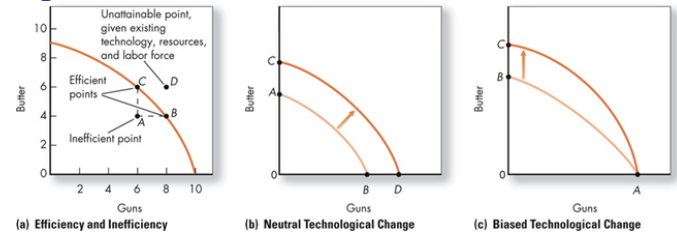
Outsourcing, Trade and Comparative Advantage

'...If a foreign country can supply us with a commodity cheaper than we ourselves can make it, better buy it of them with some part of the produce of our own industry employed in a way in which we have some advantage.'

The Law of One Price

- ▶ The law of one price implies that the wages of equal workers in one country will not differ significantly from the wages of workers in another institutionally similar country
- ▶ If the U.S. loses its comparative advantage based on technology and institutional structure, U.S. wages will decrease relative to wages in many other countries
- ▶ The reality is that the citizens in the U.S. have been living better than they could have otherwise because of trade and outsourcing

Distribution, Productive Efficiency, and Technological Change



- ▶ The productive possibility curve focuses on productive efficiency and ignores distribution
- ▶ If a method of production will change the income distribution we cannot determine if that method is (socially) efficient or not
- ▶ Efficiency has meaning when analyzing a particular goal
- ▶ In our society, most people prefer more to less, and therefore productive efficiency may coincide with social efficiency if

Outsourcing, Trade and Comparative Advantage

Outsourcing

- ▶ Outsourcing is the relocation of production once done domestically to foreign countries
- ▶ Outsourcing occurs because many other countries have a comparative advantage in labor costs
- ▶ The U.S., e.g., has comparative advantage in technology, institutional structure, and specialized knowledge

Outsourcing, Trade and Comparative Advantage

Application: U.S. Textile Production and Trade

Globalization

- ▶ Globalization is the increasing integration of economies, cultures, and institutions across the world
 - ▶ A positive effect of globalization is that it provides larger markets than the domestic economy
 - ▶ The global economy increases the number of competitors and this increased competition can be a negative effect of globalization
- ▶ Two hundred years ago, the U.S. had a comparative advantage in textile production
 - ▶ Now, countries with cheaper labor (such as Bangladesh) have the comparative advantage in textiles
 - ▶ The gains from trade are higher wages for workers in Bangladesh and lower-priced cloth for U.S. consumers

Globalization is not new

- ▶ Phoenicians: 1550 B.C. Traders
 - ▶ Roman Empire: 753 B.C.
Specialization and Trade
 - ▶ Collapse of trade networks: 476 A.D. 'Dark Ages'
 - ▶ Revitalized trade routes: 1300s 'European Renaissance'
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- ▶ Periods of increased trade and the spread of ideas have been among the best for human