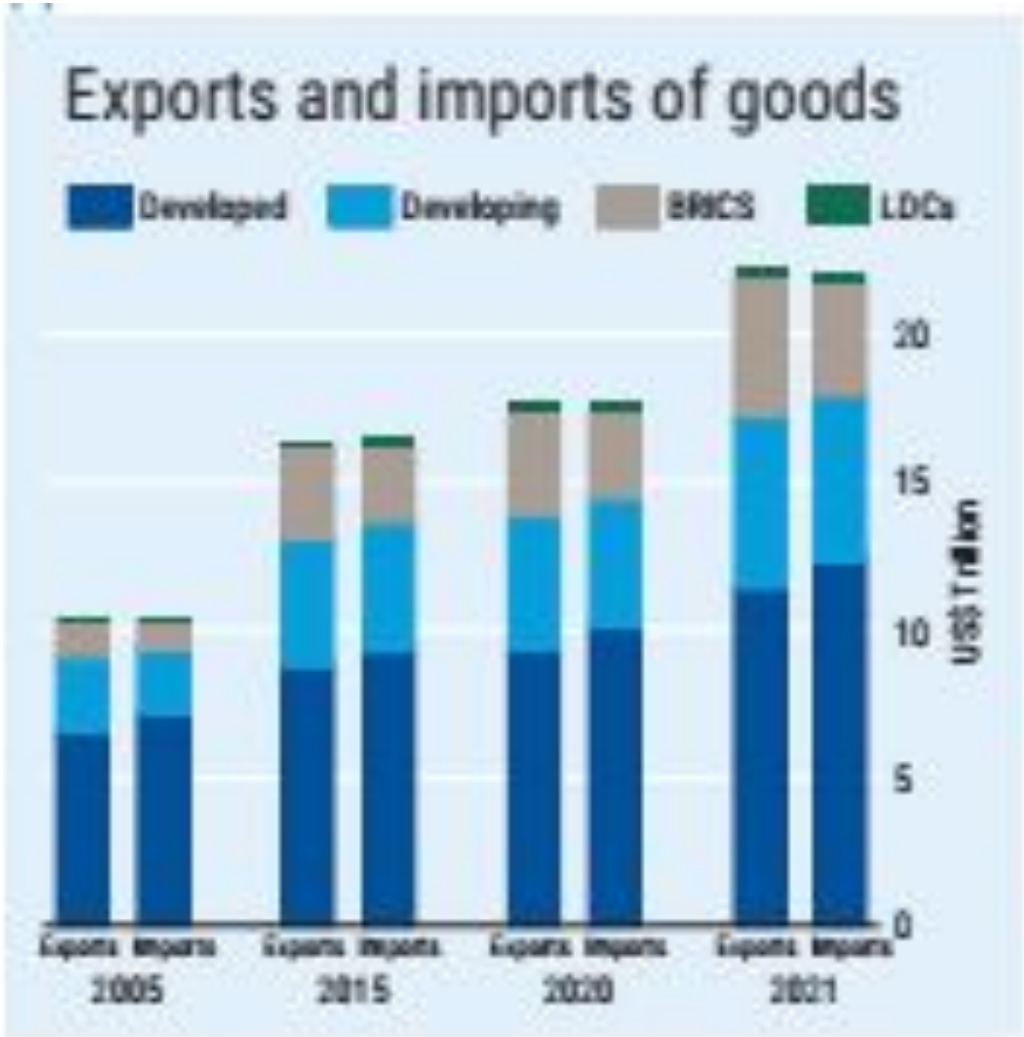
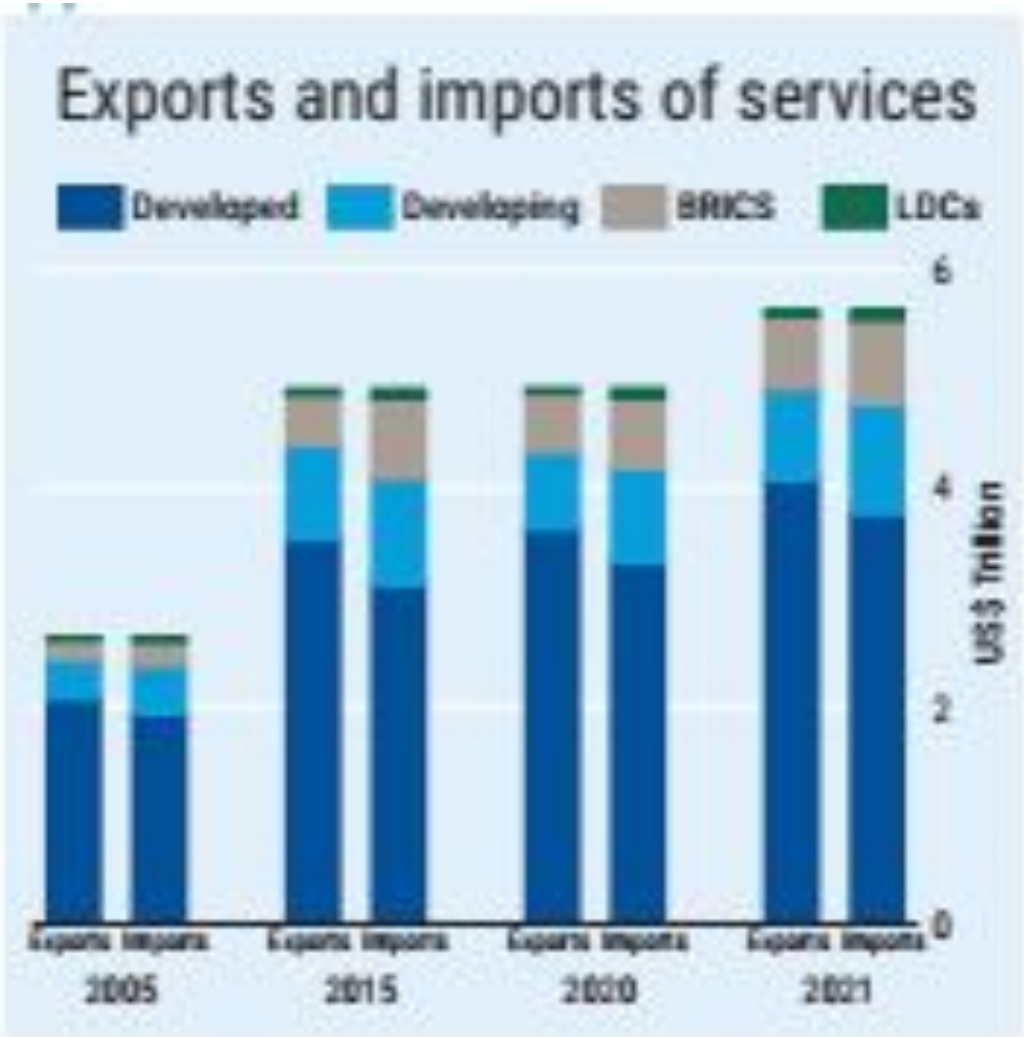
International Trade

Ref: Chapter 2 (Parkin)
Chapter 3 (Mankiw)

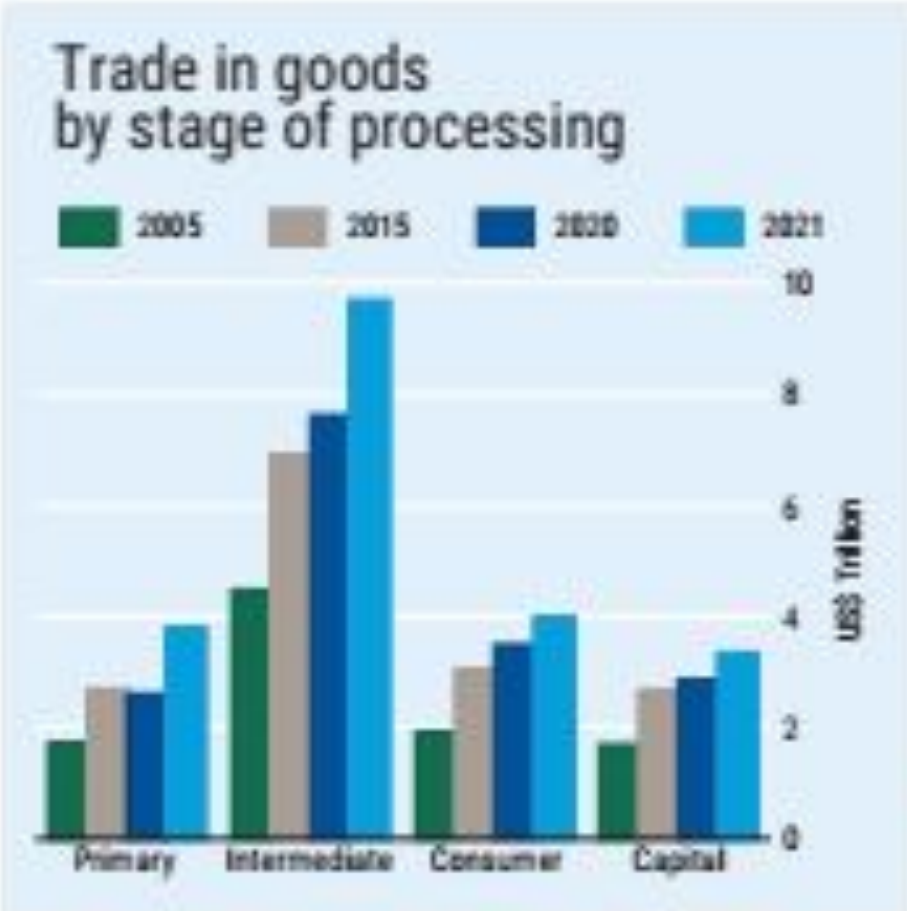
Interdependence

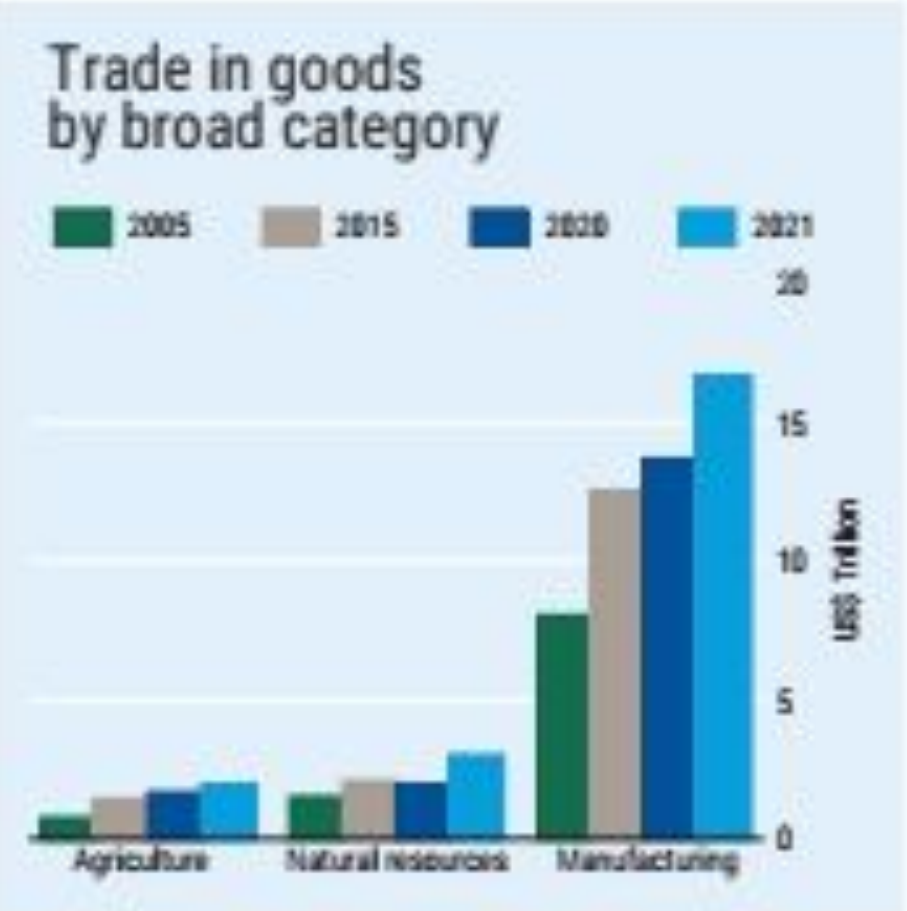
Every day you rely on many people from around the world, most of whom you've never met, to provide you with the goods and services you enjoy.





Source: UNCTAD secretariat calculations based on COMTRADE and UNCTADStat data.





Source: UNCTAD secretariat calculations based on COMTRADE data.

In this chapter, look for the answers to these questions:

- What is absolute advantage?
- What is comparative advantage?
- How are these concepts similar? How are they different?
- How can trade make everyone better off?

Definitions

- ***Absolute advantage***: AA is the ability to produce a greater quantity of a good or service with the same quantity of inputs per unit of time.

Opportunity Cost and Comparative Advantage

- **Comparative advantage**: the ability to produce a good at a lower opportunity cost than another producer
- **Which country has the comparative advantage in vaccine?**

If country A has a lower opportunity cost of producing a good, then it has a comparative advantage in that good compared to country B

- **Steps** -
  - We must *determine the OC in each country*.
  - *Compare the OC of each country.*
  - The one with *lower OC has the Comparative Advantage.*

Numerical example:

	Vaccine	TV sets
US	60	30
Korea	30	60

Output per day of work

Comparative advantage in terms of opportunity costs

- Example:
- Opportunity cost of producing a TV in US is 2 vials while it is only 1/2 vial in Korea
  - Hence, Korea has the comparative advantage in TVs

Finding Comparative Advantage

- No one has absolute advantage
- US has a comparative advantage in vaccines
  - OC is lower (0.5 vs 2)
- Korea has a comparative advantage in TV sets
  - OC is lower (0.5 vs 2)

Another Example

	Wheat (in M Tons)	**Laptop** (in Thousands)
US	**5000**	**500**
Japan	**1200**	**300**

Finding Comparative Advantage

- USA has an absolute advantage over Japan
- US has a comparative advantage in wheat
  - OC is lower (0.1 vs 0.25)
- Japan has a comparative advantage in Laptop
  - OC is lower (4 vs 10)

Another Example

	RMG (in Millions)	Laptop (in Thousands)
US	**50**	**500**
BD	**20**	**2**

Finding AA and CA

- Is there any AA?
- Who should specialize in RMG?
- Who should specialize in producing Laptop?

No Trade Situation

Boshundhara and Fresh are one of the leading tissue manufacturers of Bangladesh. The below table shows how many Kitchen Tissue (KT) and Paper Napkin(PN) each of the companies produce per hour:

	Kitchen Tissue (KT)	**Paper Napkin (PN)**
Boshundhara	10	15
Fresh	6	9

Gains from trade arise from comparative advantage

Basic international trade terms

- **Exports**:
  goods produced domestically and sold abroad
  To export means to sell domestically produced goods abroad.

- **Imports**:
  goods produced abroad and sold domestically
  To import means to purchase goods produced in other countries.

Comparative Advantage and Trade

- **Gains from trade arise from comparative advantage** (differences in opportunity costs).
- When each country specializes in the good(s) in which it has a comparative advantage, total production in all countries is higher, the world's "economic pie" is bigger, and all countries can gain from trade.
- The same applies to individual producers (like the farmer and the rancher) specializing in different goods and trading with each other.

Determining the price ratio before trade

- Price ratio must come together somewhere between 2 and 1/2
- We cannot tell exactly what the price ratio will be;
  - **it depends on demand**
- For the sake of simplicity, lets assume that the price ratio is 1
  - that is, the ratio of P_{TV} to P_{v} = 1

Pre and Post Trade Situation

	Vaccine	TV sets
US	60	~~30~~
Korea	~~30~~	60

Before Trade

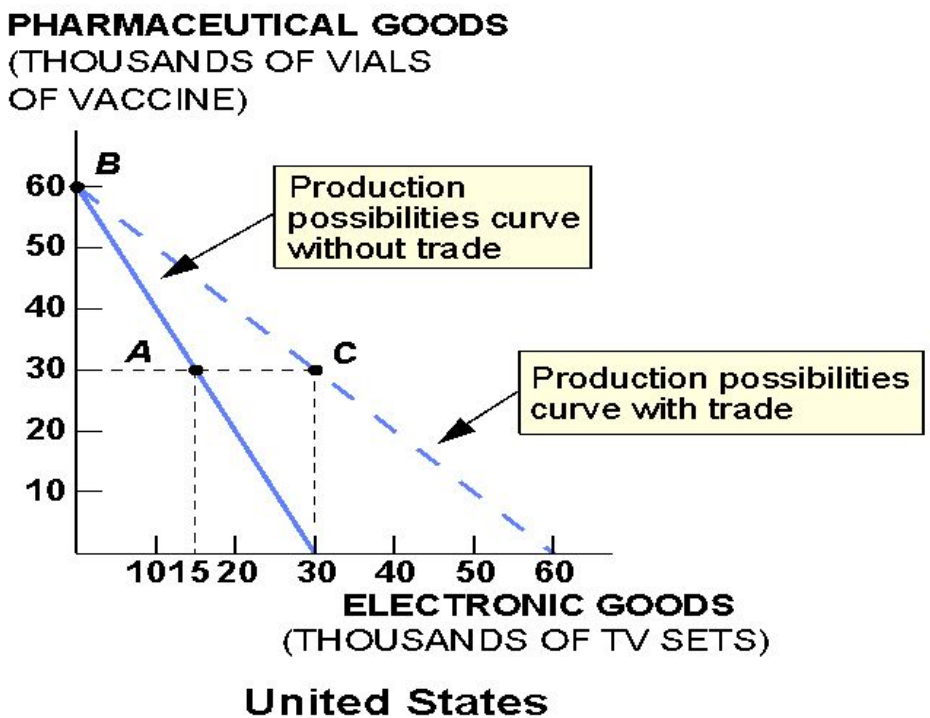
	Vaccine	TV sets
US	30	30
Korea	30	30

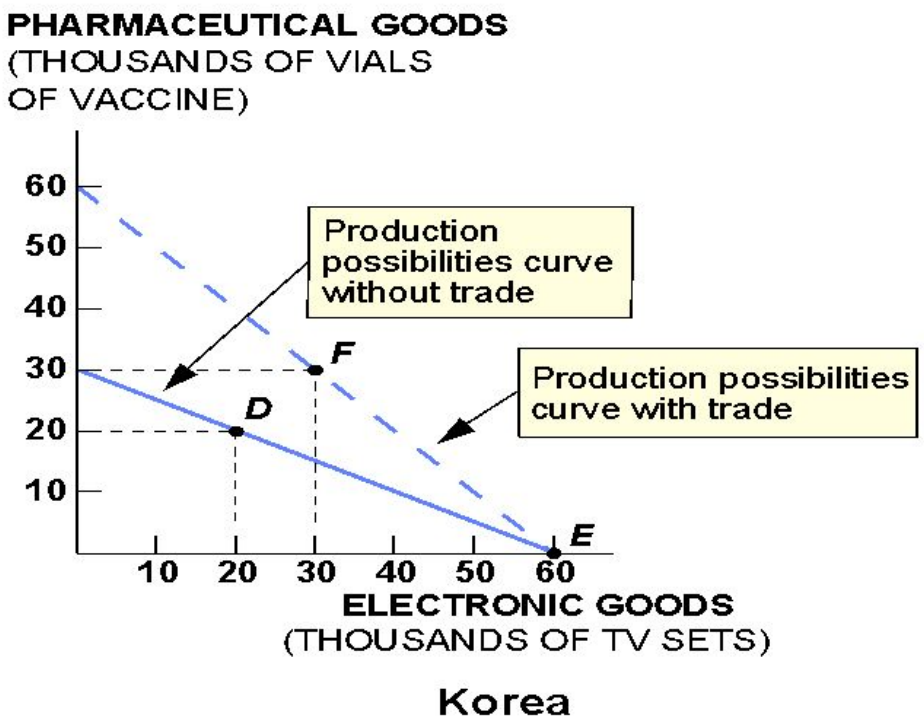
After Trade

(Assuming that the price with trade is 1 unit of vaccine for 1 TV set)

How can US & Korea gain from trade?

Showing Comparative Advantage with Production Possibilities Curves

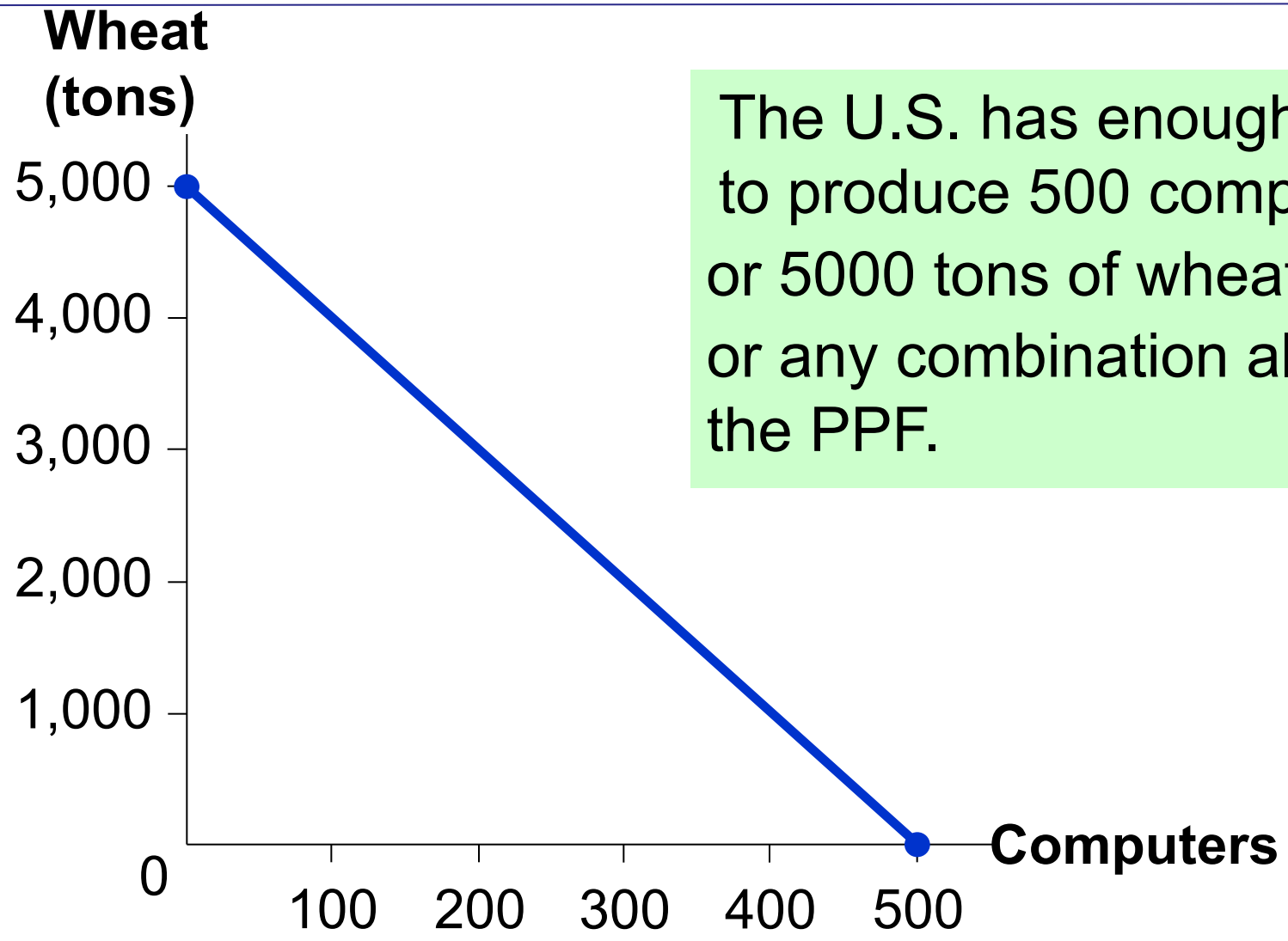




Gains from Trade

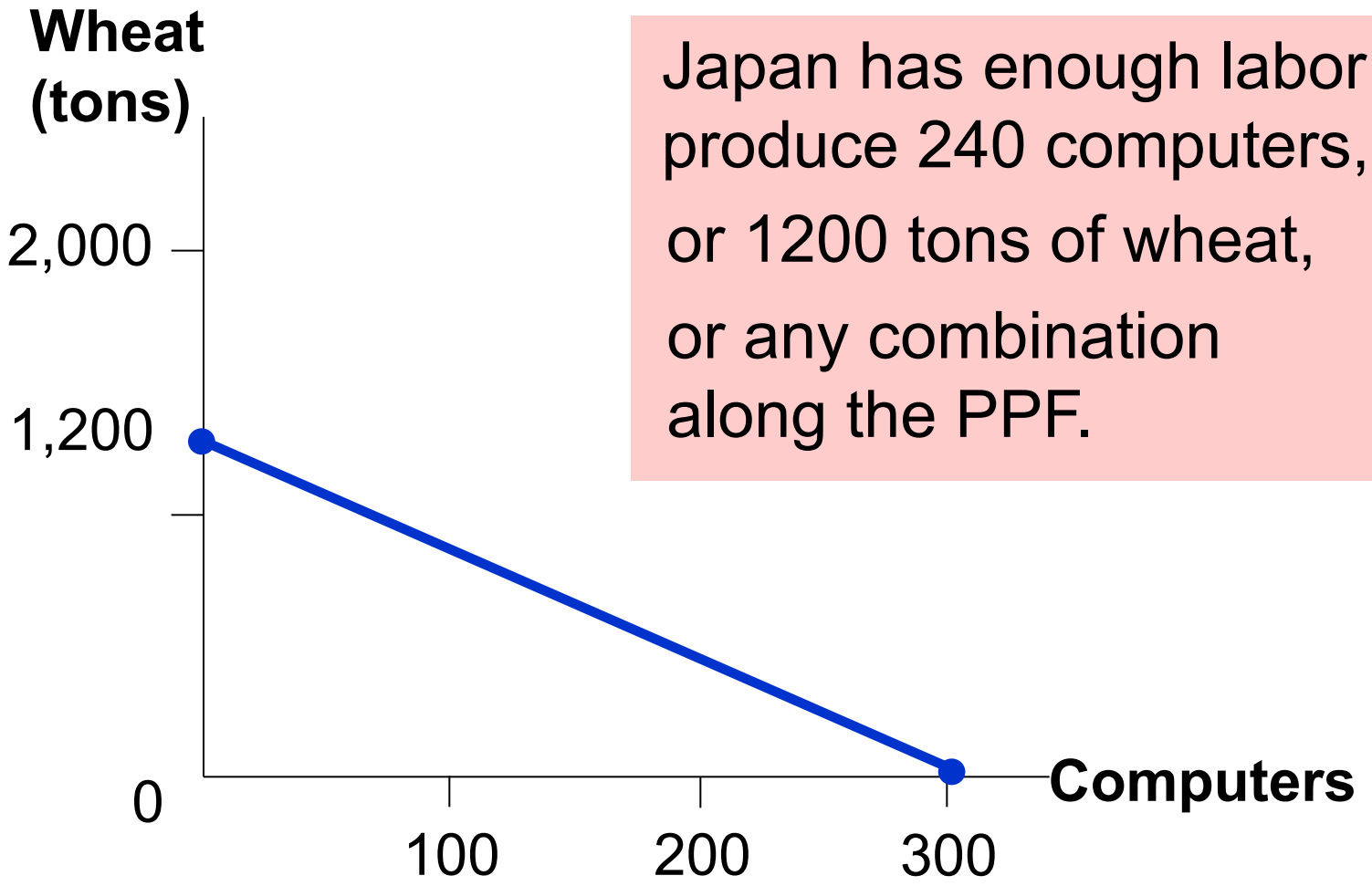
US-Japan Example

The U.S. PPF



The U.S. has enough labor to produce 500 computers, or 5000 tons of wheat, or any combination along the PPF.

Japan's PPF



Japan has enough labor to produce 240 computers,

or 1200 tons of wheat,

or any combination along the PPF.

Input Approach

Production Technologies of the Farmer and Rancher

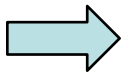
	Minutes Needed to Make 1 Ounce of:		Amount of Meat or Potatoes Produced in 8 Hours	
	Meat	Potatoes	Meat	Potatoes
Farmer	60 min/oz	15 min/oz	8 oz	32 oz
Rancher	20 min/oz	10 min/oz	24 oz	48 oz

These technology numbers can be used to calculate opportunity costs

Opportunity Costs of *Farmer*

- 1 ounce of meat → 60 minutes → 4 ounces of potatoes.
- Therefore, **Farmer's opportunity cost of 1 ounce of meat** is 4 ounces of potatoes.

	Minutes Needed to Make 1 Ounce of:	
	Meat	Potatoes
Farmer	60 min/oz	15 min/oz
Rancher	20 min/oz	10 min/oz

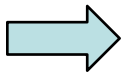


	Opportunity Costs	
	Meat	Potatoes
Farmer	4	
Rancher		

Opportunity Costs of *Farmer*

- 1 ounce of potatoes → 15 minutes → ¼ ounces of meat.
- Therefore, **Farmer's opportunity cost of 1 ounce of potatoes** is ¼ ounces of meat.

	Minutes Needed to Make 1 Ounce of:	
	Meat	Potatoes
Farmer	60 min/oz	15 min/oz
Rancher	20 min/oz	10 min/oz

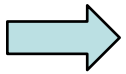


	Opportunity Costs	
	Meat	Potatoes
Farmer	4	¼
Rancher		

Opportunity Costs of *Rancher*

- 1 ounce of meat → 20 minutes → 2 ounces of potatoes.
- Therefore, **Rancher's opportunity cost of 1 ounce of meat** is 2 ounces of potatoes.

	Minutes Needed to Make 1 Ounce of:	
	Meat	Potatoes
Farmer	60 min/oz	15 min/oz
Rancher	20 min/oz	10 min/oz

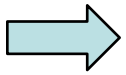


	Opportunity Costs	
	Meat	Potatoes
Farmer	4	¼
Rancher	2	

Opportunity Costs of *Rancher*

- 1 ounce of potatoes → 10 minutes → ½ ounces of meat.
- Therefore, Rancher 's opportunity cost of 1 ounce of potatoes is ½ ounces of meat.

	Minutes Needed to Make 1 Ounce of:	
	Meat	Potatoes
Farmer	60 min/oz	15 min/oz
Rancher	20 min/oz	10 min/oz



	Opportunity Costs	
	Meat	Potatoes
Farmer	4	¼
Rancher	2	½

Reminder: Opportunity Costs and Comparative Advantage

- **Farmer has a comparative advantage in potatoes** and
- **Rancher has a comparative advantage in meat**.

Table 1	Opportunity Costs	
	Meat	Potatoes
Farmer	4	**¼**
Rancher	**2**	½

Another Example

Labor Hours (for producing 1 unit)	Cars	Bike
Country A	10	5
Country B	8	2

Explain which country has a comparative advantage in producing cars and which country in producing bikes.

Example

- Two countries: the U.S. and Japan
- Two goods: computers and wheat
- One resource: labor, measured in hours

Input Approach

- Producing one computer requires 100 hours of labor.
- Producing one ton of wheat requires 10 hours of labor.
- The U.S. has 50,000 hours of labor available for production, per month.

Input Approach

- Producing one computer requires 100 hours of labor.
- Producing one ton of wheat requires 25 hours of labor.

- Japan has 30,000 hours of labor available for production, per month.

Table

	Wheat	Laptop
US	10 hours	100 hours
LJapan	25 hours	100 hours

Unanswered Questions….

- We made a lot of assumptions about the quantities of each good that each country produces, trades, and consumes, zero transportation cost, technological differences, resources and the price at which the countries trade a good for another.
- In the real world, these quantities and prices would be determined by the preferences of consumers and the technology and resources in both countries.
- For now, though, our goal was merely to see how trade can make everyone better off.