

WEEK 10: INTERNATIONAL TRADE

COMPARATIVE ADVANTAGE

SPECIALIZATION

GAINS FROM TRADE

COMPARATIVE ADVANTAGE

Trade is assumed to be mutually beneficial, when it is based on the **theory of comparative advantage**.

- Two parts to comparative advantage:
 1. Specialization based on opportunity cost
 2. Exchange

COMPARATIVE ADVANTAGE

Absolute Advantage

- One person has an **absolute advantage** over another if he or she takes **fewer hours** to perform a task than the other person

Comparative Advantage

- One person has a comparative advantage over another if his or her **opportunity cost** of performing a task is lower than the other person's opportunity cost

COMPARATIVE ADVANTAGE

Should Paula update her own web page?

	Time to update web page	Time to complete bicycle repair
Paula	20 minutes	10 minutes
Beth	30 minutes	30 minutes

COMPARATIVE ADVANTAGE

How many web pages and bicycle repairs can Paula and Beth produce a day if they both work **eight-hour days**?

- Assume they have **16 web pages** to complete.
 - Paula can update a web page in 20 minutes = 3 per hour. In 4 hours she can update **12 web pages**.
 - Beth can update a web page in 30 minutes = 2 per hour. In 2 hours she can update **4 web pages**
- This leaves time for **32 bicycle repairs**.
 - Paula can repair a bicycle in 10 minutes = 6 per hour. In 4 hours she can repair **24 bicycles**.
 - Beth can repair a bicycle in 30 minutes = 2 per hour. In 6 hours, she can repair **12 bicycles**

COMPARATIVE ADVANTAGE

	Web Pages	Bicycle Repairs
Paula	12	24
Beth	4	12
Total	16	32

COMPARATIVE ADVANTAGE

Opportunity Cost:

In 1 hour Paula can update 3 web pages OR repair 6 bicycles.

- Her **opportunity cost** of updating 1 web page = 2 bicycle repairs.

In 1 hour Beth can update 2 web pages OR repair 2 bicycles.

- Her opportunity cost of updating 1 web page = 1 bicycle repair.

Beth's opportunity cost of updating web pages is **lower than Paula's**

COMPARATIVE ADVANTAGE

Opportunity Cost:

In 1 hour Paula can update 3 web pages OR repair 6 bicycles.

- Her **opportunity cost** of repairing 1 bicycle = $\frac{1}{2}$ of web page update.

In 1 hour Beth can update 2 web pages OR repair 2 bicycles.

- Her opportunity cost of repairing 1 bicycle = 1 web page update.

Paula's opportunity cost of repairing bicycles is **lower than Paula's**

COMPARATIVE ADVANTAGE

Opportunity Cost:

The principle of comparative advantage states:

Both will be better off if each one **specializes** in the activity with the **lowest opportunity cost**.

So Paula should **specialize** in repairing bicycles, and Beth should specialize in updating web pages.

COMPARATIVE ADVANTAGE

If they specialized in their comparative advantage, they could still update the **16 web pages**. But, they could complete **48 bicycle repairs** instead of **32**.

The additional bicycle repairs = the gain from specialization.

	Web Pages	Bicycle Repairs
Paula	0	48
Beth	16	0
Total	16	48

The Principle of Comparative Advantage

- Everyone does best when each person (or each country) concentrates on the activities for which his or her opportunity cost is lowest

INTERNATIONAL TRADE

Trade theory is a *very old theory* in economics – dates from the early 1800s.

- Free market exchange is **mutually beneficial** to both parties.
 - *Positive sum game vs. Zero sum game.*
- Gains from exchange apply to trade between 2 individuals OR to trade between 2 countries.

TRADE THEORY

Gains from trade depend on the concept of **Comparative Advantage**.

- Exchange is beneficial if 2 parties have **different opportunity costs**.
- Gains will occur if each country specializes in the activity with the **lowest opportunity cost**.

INTERNATIONAL TRADE

Example:

2 countries: Canada & Argentina

2 goods: Cloth and bread

- The relative prices in this example reflect labor time (just like in the example with Beth and Paula).
- **This is an important assumption!** i.e. the principle of comparative advantage is NOT based on supply and demand. It is based on relative advantage in the **production** of various goods.

INTERNATIONAL TRADE

Relative prices:

- Argentina: 1 unit of cloth = $\frac{1}{4}$ unit of bread
1 unit of bread = 4 units cloth
- Canada: 1 unit of bread = $\frac{1}{2}$ unit cloth
1 unit of cloth = 2 units of bread

INTERNATIONAL TRADE

Example:

Which country has the comparative advantage in the production of cloth?

- Argentina: In 1 unit of time, Argentina can produce either 1 unit of cloth OR $\frac{1}{4}$ of a loaf of bread.
- Canada: In 1 unit of time, Canada can produce either 1 unit of cloth or 2 units of bread.
- Argentina has the comparative advantage in cloth – because it has the lowest opportunity cost.

INTERNATIONAL TRADE

Example:

Which country has the comparative advantage in the production of bread?

- Argentina: In 1 unit of time, Argentina can produce either 1 unit of bread or 4 units of cloth.
- Canada: In 1 unit of time, Canada can produce either 1 unit of bread or $\frac{1}{2}$ unit of cloth
- Canada has the comparative advantage in bread – because it has the lowest opportunity cost.

COMPARATIVE ADVANTAGE

Example:

Current Production Levels before specialization.

Argentina: 10 units bread & 10 units cloth

Canada: 20 units bread & 10 units cloth

“World” production: 30 units of bread and 20 units of cloth.

	Bread	Cloth
Argentina	10	10
Canada	20	10
World	30	20

COMPARATIVE ADVANTAGE

Example:

After Specialization

Argentina: 0 units bread & 50 units cloth

Canada: 0 units cloth & 40 units bread

World Production: Increased from 30 units of bread to 40.

Increased from 20 units of cloth to 50.

	Bread	Cloth
Argentina	10 (0)	10 (50)
Canada	20 (40)	10 (0)
World	30 (40)	20 (50)

TRADE THEORY CONTROVERSIES

Who gets the gains from trade?

Does everyone benefit equally?

What is the impact on the home country of specialization?

BENEFITS OF TRADE

There is greater world production. So the “gains from trade” exist. However, how is this gain shared between countries?

- Before trade: Argentina could trade 1 unit of cloth for $\frac{1}{4}$ unit of bread. In Canada, 1 unit of cloth traded for 2 units of bread.
- Question: Does Argentina get to sell its extra cloth at the Canadian price?
- Before trade: Canada could trade 1 unit of bread for $\frac{1}{2}$ unit of cloth. In Argentina, 1 unit of bread traded for 4 unit of cloth. Does Canada get to sell its extra bread for more cloth?
- NO. Once international trade between Argentina and Canada begins, there is only the one “international” price.
- The new international price will determine how much of the “gains from trade” each country will receive.

COSTS OF TRADE

There will also be “costs” associated with specialization.

- Firms in import-competing sectors go out of business
- If Argentina specializes completely in the production of cloth, then the bread industry will suffer. Even if the specialization is not complete, there will be effects on the bread industry – firms, workers, and communities.
- Workers will be displaced. Workers who have specialized in bread production may have to retrain or move to find jobs in the expanding cloth industry.
- Communities that were dependent on bread will be adversely affected when major employers close or move overseas.

TRADE AND JOBS

Theory says that benefits of trade outweigh costs. In the long-run, the country will be better off.

Economic growth and productivity gains

- Will produce new businesses to replace old ones.
- Will provide new employers for communities to replace old ones.
- will produce new jobs to replace old jobs.

These are *empirical* questions and often controversial ones.

MANUFACTURING

The loss of manufacturing jobs in the US began in the 1980s.

The peak of manufacturing employment in the US was 1979.

- Some of this job loss has been due to international trade:
- Other important causes include:
- Outsourcing (moving some (but not all) of the production process overseas).
- Automation (replacing labor intensive jobs with robots and so on).
- Technological change (shifts in characteristics of products and the production process).

TRADE AND JOBS

Issues:

Quantity: Is there a net job loss or gain? i.e. are more jobs created than jobs lost?

Quality: Are the new jobs as good as the old jobs?

Differential impacts: Which groups of workers are more vulnerable?