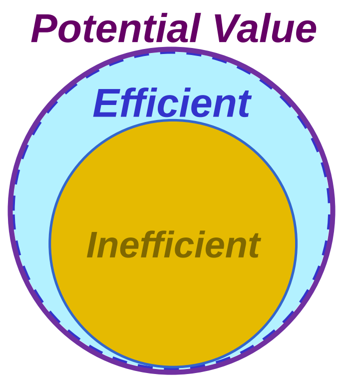
Thursday, Oct 21, Lecture 13
Efficiency vs. Equity,
International Trade

Efficiency and Equity



- ***Efficiency*** describes how much value an economy creates as *compared to its potential.*
  - Efficiency refers to the size of the pie.

Less Equitable

- ***Equity*** describes the degree of fairness in the division of the value that the economy creates.
  - Equity refers to how the pie is cut up.

More Equitable

  - High ***inequality***, very rich along side of very poor, is often considered to be unfair.

Efficiency vs. Equity

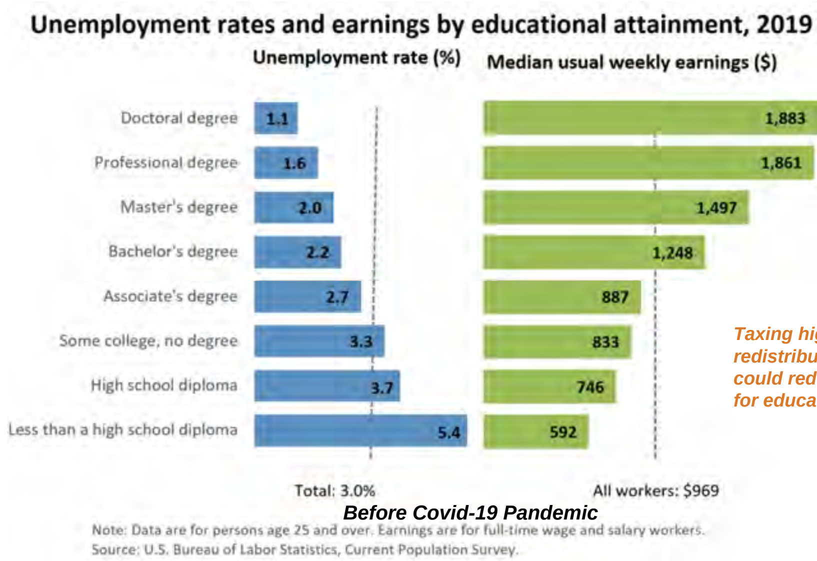
- ***Efficiency*** concepts like ***Pareto efficiency*** and ***social surplus*** do not consider equity.

- In fact, providing goods for the rich is more likely to increase ***social surplus*** than providing the same goods for the poor…

- …because the rich normally have a higher ***WTP*** for many goods and services than the poor do.

- An ideal economic policy might be ***to maximize surplus*** and then ***distribute it equitably***.

- But the combination of a large surplus and equitable distribution is difficult to achieve.
  - Economic incentives that generate a large social surplus, like high wages for the highly educated, may shift income from the poor to the rich.



Taxing high incomes for redistribution to the poor could reduce the incentives for educational attainment.

Economists Emphasize Efficiency and Surplus

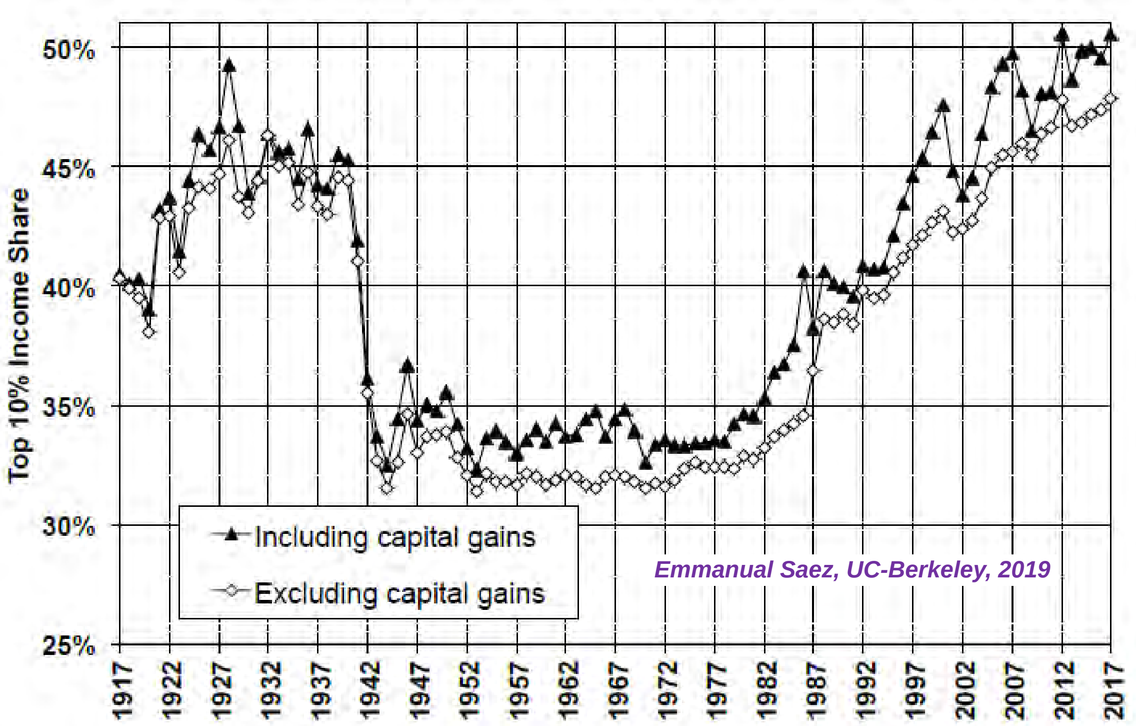
- Most economists emphasize efficiency and the need to create surplus (sometimes called “value”).

- Until recent years, most economists did not pay much attention to equity.

- The emphasis on surplus seems right to people who get most of the surplus.
- Many economists argue that an emphasis on equity would make everyone equally poor.
- Great ***reductions in poverty*** (as in China), economists say, ***come from economic growth***, not from equity increases.
- I agree. But if most of the added wealth goes to the rich, increasing the wealth of society may reduce poverty but make equity worse.
- Could equity be increased in the US without reducing wealth?
  - Central and northern European countries have a per-capita income similar to that of the US,…
  - but their distribution of income is a far more equitable.
  - In much of Europe, the ratio of top-20% / bottom-20% is about 5, but it is more than 8 in the US.

Top 10 Percent Income Share in USA

Government Transfers not Included



Clicker Question

Maximizing surplus may be a bad idea, because

a. surplus may be distributed unfairly.
b. there is often too much surplus.
c. surplus is not related to consumer value.
d. surplus maximization is inefficient.

International Trade

Trade Concepts: Absolute Advantage

- Suppose we compare two countries (or regions).
- One country has an ***absolute advantage*** in producing a good if it uses less input than the other country does (so that the input costs less).
  - **Example:** Suppose China can produce a train with a lower input cost than the United States can.
  - Then China has an *absolute advantage* over the United States in producing trains.
  - This may happen because the Chinese train factories are more productive than US train factories.

Trade Concepts: Comparative Advantage

- Suppose a country produces two goods that use the same inputs and are substitutes in production.
- If the country produces more of one of the goods, then it must produce less of the other good.
- **Example:** trains and planes
  - If a country wants to produce another train, then there's an *opportunity cost* in terms of planes.
  - To produce another train, the country would have to sacrifice the production of some of its planes.
- The country with the lower opportunity cost of a good (sacrificing less of the other good)…
- … has a ***comparative advantage*** in the production of that good.

Trade and Comparative Advantage

- **Fictional Example:** Trains and Planes

Country	Required Inputs [$M]	
	Train	Plane
China	1	2
USA	6	3

- China has an ***absolute advantage*** over the US in producing *BOTH* trains and planes, because uses less inputs in their production of each one than the US does.
- China has a ***comparative advantage*** over the US in producing trains,...
- because the ***opportunity cost*** of a train in terms of planes sacrificed is lower in China.

China: ½ plane
US: 2 planes

- However, the USA has a ***comparative advantage*** over China in producing planes,...
- because the ***opportunity cost*** of a plane in terms of trains sacrificed is lower in the US.

Country	Required Inputs [$M]	
	Train	Plane
China	1	2
USA	6	3

China: 2 trains
US: ½ train

- If one country has a comparative advantage in one good, then the other country must have a comparative advantage in the other good.
- Why? For each country, the opportunity cost of one good in terms of the other, is the reciprocal of the opportunity cost of the other good in terms of the first good.
  - **Example:** If you must sacrifice ***2 trains*** in China to produce a plane, then must sacrifice ***½ plane*** in China to produce a train. The inequalities between countries are reversed.

If 3/4 < 2,
then 4/3 > 1/2

Autarky (no trade) versus Free Trade

- **Example** Suppose China and the US want to have both trains and planes.
  - Each country could practice autarky and produce its own trains and planes.
  - Or China could specialize in producing one product, the US in the other, and trade to get both.
- If each country specializes according to its ***comparative advantage*** and starts to trade,…
- …both China and the US could have more of *both products* without using more inputs.
- ***Trade*** is more efficient than ***autarky***.
- This also applies to regions within a single country.

Example:

Autarky vs Trade

Country	Required Inputs [$M]	
	Train	Plane
China	1	2
USA	6	3

Inputs: $24 million each		Produce & Own	
Autarky		Trains	Planes
	China	16	4
	US	3	2
Total		19	6

- But suppose:
  China produces ***all*** the trains,
  the US produces ***all*** the planes.

Compare

International trade increases total welfare of participating countries, but it is not a Pareto improvement.

$24 million each | Produce			Own	
Specialize and Trade			Trains	Planes
	China	24 Trains	20 *and*	5
	US	8 Planes	4 *and*	3
Total			24 *and*	8

- Now both countries have more trains and more planes for the same $24 million of inputs.

- Then China and the US can trade 4 trains for 5 planes.

Comparative Advantage in the Long Run

- Sometimes, when less-developed economies invest in sectors without a comparative advantage,…
- …human and physical capital is formed that creates a comparative advantage in the long run.
- Unfortunately, such strategies often fail.
- In 2013, India constructed a rocket with a Mars orbiter, and sent it to Mars.
- Will the project create a comparative advantage in some high-tech sectors?
- Or is it simply a waste of resources in a country where most people don't have toilets.

Determinants of Absolute and Comparative Advantage

- Individual Level
  - Inborn talent
  - Education
  - Training
  - Experience
- National Level
  - Natural resources
  - Cultural factors
  - Capital goods
  - Institutions

Comparative Advantage and Illegal Activities

- Who has the ***comparative advantage*** in operating illegal activities?
- Professional criminals have the talent and specialized skills required for illegal work.
- Many economists believe that ***legalization*** is the best solution to the illegal-drugs problem.
- In an editorial about drugs (April 2, 1988), ***The Economist*** news magazine recommended:
  "Legalize, control, discourage."

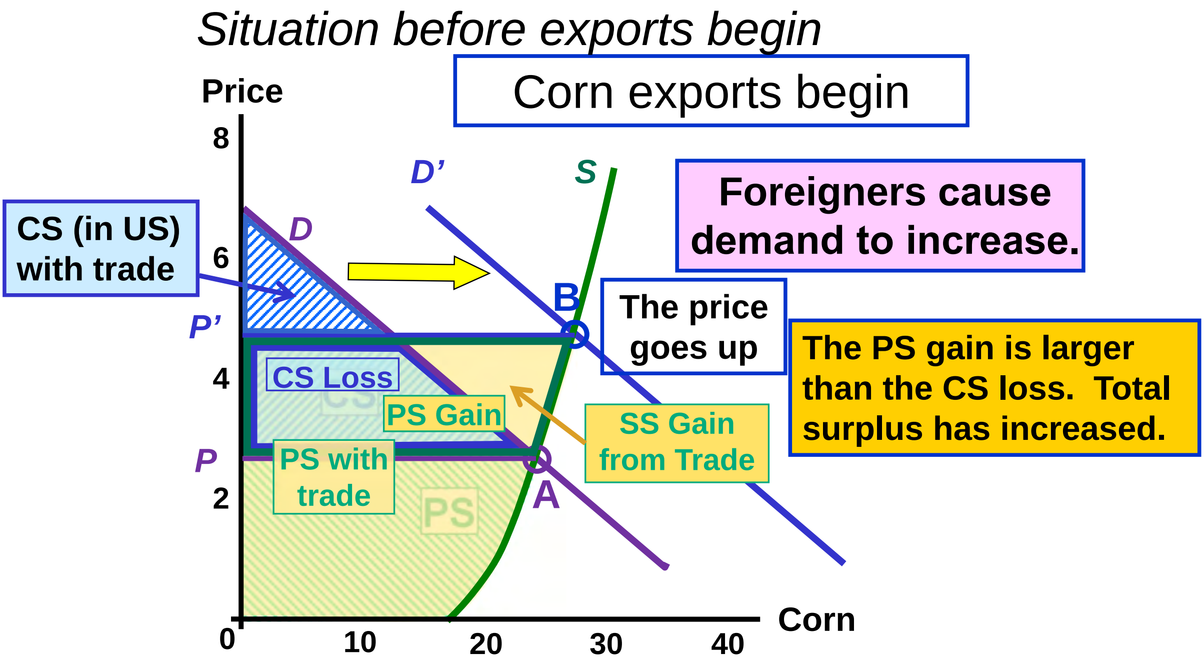
Required reading—listed on the Course Schedule.

Winners and Losers from Exports

- International trade makes a country richer, but not everyone in the country is a winner.
- Producers of exported goods win big.
  - Price of the good may increase, because foreigners create additional demand.
  - Producer surplus increases.
  - Employment in those industries may be increased.
- Gains may be concentrated among a small number of large producers.
  - In agriculture, the gains will be largest for the large industrial agriculture corporations that produce and export the most.

- Exports may hurt domestic consumers if the prices of the exported products rise.
- Consumer losses tend to be spread out.
  - Each consumer will normally lose a small amount.
  - But in poor countries, where one product is an important staple [e.g. rice in some Asian countries], exports can hurt domestic consumers badly.
  - Exports during the Irish famine, 1845-49.
- For some commodities with one worldwide market (like petroleum), exports from a small country will not change the world price.
  - Then domestic consumers will not be hurt.

Example: Exports of US Corn [Graph]



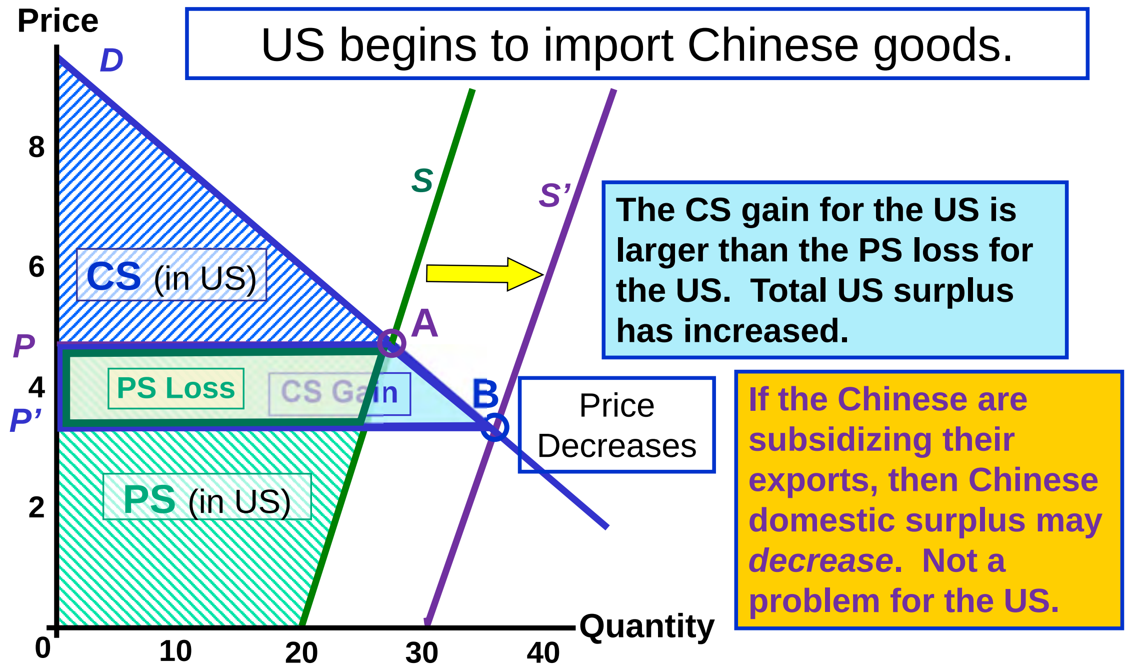
Clicker Question

Which of the following effects can be caused by increasing exports from United States?

a. a loss of consumer surplus in the US
b. a loss of producer surplus in the US
c. a loss of US social surplus
d. a loss of both consumer surplus and producer surplus in US

Example: US Imports Chinese Goods

Situation before imports begin



Domestic Producers May Lose because of Competing Imports

- Foreign competition may force down the prices of competing domestic products
- Producer surplus may fall.
- Employment may fall, and unemployment may rise.
- Unemployment can cause serious hardship, and a minority of people may sustain large losses.
- US automobile producers were bankrupted by Japanese competition, and the US companies survived mainly because of government help.

Consumers Gain from Imports

- Imports may be cheaper than domestic products, and they often drive down domestic-product prices.
- Many people may be able to buy cheaper goods.
- Firms that use imported inputs, may increase profits and lower prices of their products.
- The variety of goods available to the consumer increases.
- Import competition is likely to improve the quality of domestic products.
  - US Auto Industry again

U.S. Imports from China

- Imports from China expanded by a factor of 12 from 1990 to 2007,…
- which increased unemployment in the U.S. by an estimated 0.7%.
- Are imports from China harmful? Trade deficits?
  - A minority of American workers lose jobs.
  - But China is selling goods at low prices to American consumers, *including poor consumers*.
  - And China is lending to the US at very low interest rates helping to finance the purchase of Chinese goods.
  - How should the US government react?

Concentrated Losses vs. Diffuse Gains

- The negative psychological effect of economic losses is larger than the positive psychological effect of gains.
- Behavioral economists call this “loss aversion.”
  - Economic losses are coercive: they can force a person to change his behavior.
  - Economic gains are not coercive: a person is free to ignore the gains and continue on as before.
- Losses from trade may have a larger political effect than gains from trade.
- This is especially true of losses from imports (especially job losses): those losses are much larger for some people than what they gain from imports.

Clicker Question

Low priced imports from China

a. account for most of the unemployment in the US.

b. keep the value of the US dollar too low.

c. force the US to borrow money from China.

d. increase consumer surplus in the US.

End of Lecture 13