Lecture 13: Efficiency vs. Equity & International Trade

Clicker Question
Efficiency and Equity

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

- **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.
  - 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, producing goods for the rich is more likely to increase social surplus than producing 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 large surplus and equitable distribution is difficult to achieve.

- That’s because economic incentives that generate high levels of surplus,
- like high wages for the highly educated,
- may shift income
- from the poor to the rich.

**Direction of Causality?**

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), they say, come from economic growth, not from equity increases.

But increasing the wealth of society may reduce poverty and reduce equity too, if most of the added wealth goes to rich people.

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

Emmanuel Saez, UC-Berkeley, 2019

Clicker Question
Trade Concepts

- Suppose there are two countries (or regions).

- One country has an absolute advantage in producing a good if it can produce the good using a smaller amount of resources (inputs) than the other country can.

- Suppose now there are two goods, which are substitutes in production (like trains and planes).
  - If a country wants to produce another train, then there’s an opportunity cost: it has to sacrifice some of the planes.

- The country with the lower opportunity cost of producing a good (causing lost production of other goods) has a comparative advantage in that good.
Trade and Comparative Advantage

**Fictional Example:** Trains and Planes

<table>
<thead>
<tr>
<th>Country</th>
<th>Resources* [$ Millions]</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Train</td>
</tr>
<tr>
<td>China</td>
<td>1</td>
</tr>
<tr>
<td>USA</td>
<td>6</td>
</tr>
</tbody>
</table>

*Value of required inputs
[numbers invented by instructor]*

- China has an **absolute advantage** over the US in producing *BOTH* trains and planes, because resources required for their production cost less in China than in the US.
- 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.  
  
**Can we see that from the resources table?**

**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.

<table>
<thead>
<tr>
<th>Country</th>
<th>Resources* [$ Millions]</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Train</td>
</tr>
<tr>
<td>China</td>
<td>1</td>
</tr>
<tr>
<td>USA</td>
<td>6</td>
</tr>
</tbody>
</table>

**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 is the reciprocal of the opportunity cost of the other good, so inequalities are reversed.

**Example:** If you have to sacrifice 1/2 plane in China to produce a train, then you must sacrifice 2 trains in China to produce a plane.
Autarky (no trade) versus Free Trade

- 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 of the two countries specializes according to its comparative advantage and then trades,…
- …both China and the US could have more of both products without using more resources.
- Trade is more efficient than autarky.
- The same logic applies to individuals or regions within a single country.

Example: Autarky vs Trade

<table>
<thead>
<tr>
<th>Country</th>
<th>Resources* [$ Millions]</th>
<th>Produce &amp; Own</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Train</td>
<td>Plane</td>
</tr>
<tr>
<td>China</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>US</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>19</td>
<td>6</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>$24 million each</th>
<th>Produce</th>
<th>Own</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specialize and Trade</td>
<td>Trains</td>
<td>Planes</td>
</tr>
<tr>
<td>China</td>
<td>24 Trains</td>
<td>20 and 5</td>
</tr>
<tr>
<td>US</td>
<td>8 Planes</td>
<td>4 and 3</td>
</tr>
<tr>
<td>Total</td>
<td>24 and 8</td>
<td></td>
</tr>
</tbody>
</table>

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

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
  - Institutions
  - Capital goods
Comparative Advantage and Illegal Activities

- Who has the **comparative advantage** in operating illegal activities?

- Who 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.**

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Winners and Losers from Exports

- Producers of exported goods win big.
  - Price of the good may increase, because quantity demanded increases.
  - Producer surplus increases.
  - Employment in those industries may be increased.
  - Gains may be concentrated among a small number of people.
  - In agriculture, the gains will be largest for the corporations that produce the most.
  - What is misleading about this poster?
Exports may hurt domestic consumers if the price of the exported product rises at home.

- 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.

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.

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**Example:** Exports of US Corn (Maize)

Corn export market opens

The PS gain is larger than the CS loss. Total surplus has increased.
Example: US Imports Chinese Goods

US begins to import Chinese electronics.

Price Decreases

The CS gain for the US is larger than the PS loss for the US. Total US surplus has increased.

If the Chinese are subsidizing their exports, then Chinese surplus may decrease. But that is not a problem for the US.
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 low-priced imports from China harmful?
  - Some American workers are losing jobs.
  - But China is selling goods to American consumers, including poor consumers, at low prices.
  - And China is lending its profits to the US at very low interest rates.
  - 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 per affected person than the gains from imports.
Clicker Question

End of File