Lecture 18-19

- Ricardian model: gains from trade based on technology differences
- Specialization and comparative advantage
- Extensions to the Ricardian model
- Empirical examples

A Simple Example (1)

- Assumptions:
  - Countries: US and China
  - Goods: TV and Radio
  - Factor: Labor (300 in US, 1200 in China)
  - Consumption: one unit of each (perfect complements)
  - Production: (technology)

	US	China
TV	5	40
Radio	10	20

- Autarky equilibria: (Diagrams)
  - In US, the price (opportunity cost) of TV is 0.5 Radio
    US can produce at most 60 TVs or 30 Radios
    The final consumption is 20 TVs & 20 Radios
  - In China, the price (opportunity cost) of TV is 2 Radios
    China can produce at most 30 TVs or 60 Radios
    The final consumption is 20 TVs & 20 Radios

A Simple Example (2)

- Free trade equilibrium: (Figure 1 on p.37)
  - The price of TV should lie between 0.5 to 2 Radios
    Let's assume the terms of trade is 1 for 1
  - US should specialize in producing TVs:
    - 60 TVs will be produced and 30 of them will be sold for 30 Radios (individual utility rises from 20/300 to 30/300)
  - China should specialize in producing Radios:
    - 60 Radios produced and 30 of them sold for 30 TVs (individual utility rises from 20/1200 to 30/1200)
  - Trade shifts out both US's and China's PPF to TPF, so consumers in both countries obtain a higher utility
- Free trade and wage inequality:
  - Wages in Radio units:
  - Real wages increase in both countries

	US	China
Autarky	1/10	1/20
Trade	1/5	1/20

Ricardian Model

- Assumptions (pp.29-30):
  - 2 countries, 2 goods, 1 factor (Labor, L, fully employed)
  - L fixed, completely mobile internally & immobile externally
  - Technology for each sector fixed, CRS, perfect competition
- Comparative Advantage: (due to technology differences)
  - Absolute advantage:
    - A country has an absolute advantage if it can use less labor to produce a good (In the example, US has an absolute advantage)
  - Autarky (pretrade) price ratios: $(P_{TV}/P_{Radio})^{US}$ vs. $(P_{TV}/P_{Radio})^{China}$
  - Comparative advantage (a lower opportunity cost):
    - A country has a comparative advantage in good x if its autarky relative price of good x over y is lower than that in the other country
    - E.g. US has a comparative advantage in TV as $(P_{TV}/P_{Radio})^{US} < (P_{TV}/P_{Radio})^{China}$ while China has a comparative advantage in Radio as $(P_{Radio}/P_{TV})^{China} < (P_{Radio}/P_{TV})^{US}$
    - Each country must have a comparative advantage in one good unless both countries use the same technologies
- Gains from trade: specialization & improvement in terms of trade

Extensions and Examples

- Extensions (ch 4):
  - Multiple commodities
    - The Dornbusch-Fisher-Samuelson Model
  - Multiple countries
  - Transportation costs and tariffs
- Examples: (two case studies in Chs 3 & 4)
  - Export concentration of selected countries
  - Labor productivity and import penetration in the US steel industry
- Weakness:
  - Only one factor (no distributive conflict)
  - Differences in productivity are assumed & unexplained
    - Production technologies differ
    - Supplies of other cooperating factors (land/capital) differ