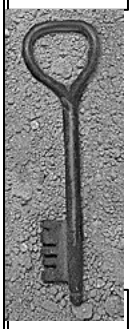


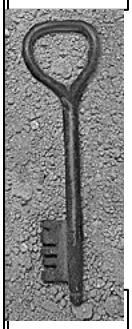
Basic questions and theories of trade

- Why countries trade with each other and should trade be restricted by one country to benefit its residents?
  - Adam Smith's theory of trade based on absolute advantage. (Productivity differences)
  - Later Ricardo's theory based on comparative advantage (Productivity differences)
  - Heckscher-Ohlin theory of comparative advantage based on differences in factor endowments, but countries have share the same technology.

Why trade – in general

Main reasons in all theories of International trade:

- Countries engage in international trade because they benefit from doing so.
  - Allows countries to specialize production so that resources are allocated most efficiently.
    - Trade frees each country's residents from having to consume goods in the same combination in which the local economy can produce them.
  - Benefits from product specialization:
    - Individuals may produce one good (*e.g., teaching economics*) and exchange that for others goods to consume (*e.g., food or clothing*).



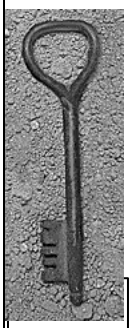
Mercantilism

Mercantilism represented the dominant attitude toward international trade in the 17th and 18th centuries.

Nations encouraged exports and restricted imports as a method to improve inflow of gold and silver.

Mercantilists assumed trade was a zero-sum game.

that it could not be mutually beneficial to all parties.



A. Adam Smith's theory of trade based on absolute advantage

Motivations – to refute the erroneous stand on trade protection of Marcantalism which existed then.
Reading: *Box on Mercantilism on p.23*

Concepts:

- **Absolute Advantage**
- **Labor theory of value**
- **Arbitrage**
- **directions of trade**

Absolute Advantage: Conisder the example

Labor hrs required to make	US	Rest of the World
1 bushel of wheat	2	2.5
1 yd of cloth	4	1.0

Which country has absolute advantage in production of which good?

Us in production of wheat and foreigners in cloth

Labor theory of value: Price in terms of labor content

US: Wheat = 2.0, cloth = 4.0
Foreign: Wheat = 2.5, cloth= 1.0

Relative price of wheat in terms of cloth, denoted $p_{w|c}$

In US: $p_{w|c}$ =1/2 yard/bushel,
Foreign countries: $p_{w|c}$=2.5 yard/bushel

Arbitrage:

Arbitrage possibility: Suppose US has 100 units of labor and Produces 20 bu wheat and 15 yd cloth. Similarly, foreigners 20 bu wheat and 50 yd clothes. There is possibility of arbitrage by traders

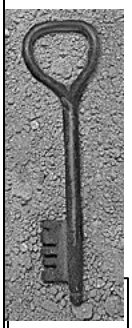
A trader in the US market will buy wheat in exchange for cloth. Each unit of wheat costs him .5 units of cloth but after selling it abroad he gets 2.5 units of cloth, so he has 2 unit of cloths gained from arbitraging. Using it he will buy more wheat and export it and have more gain.

Labor shifting: Since there will be demand for wheat in the US for exporting, more and more labor will be shifted to the production of wheat and away from cloth production, and in this process the US will specialize in wheat production.

Abroad, there will be more and more demand for cloth, so they will stop producing wheat and shift its labor to cloth production. Both countries gain from this trading.

What price will prevail in the world market?

- The world price of wheat in terms of cloth, $p_{w|c}$ has to be between those two domestic prices of the two countries, why?
- The force of demand and supply will tell us that as more and more wheat is demanded in the US, the price of wheat in terms of cloth $p^{U}_{w|c}$ will rise, and since there will be more and more demand for cloth abroad, the foreign price $p^{F}_{c|w}$ will increase. But since $p_{w|c} = 1/ p_{c|w,}$, so, $p_{w|c}$ will fall abroad.



Ricardian Theory

Concepts:

- ➢Production possibility curve
- ➢Community indifference curve– demand curve for wheat
- ➢Production decision to maximize revenue –supply curve of wheat

- ✓Autarky equilibrium
- ✓International trade equilibrium and trade pattern
- ✓Gains from trade – in terms of income and welfare

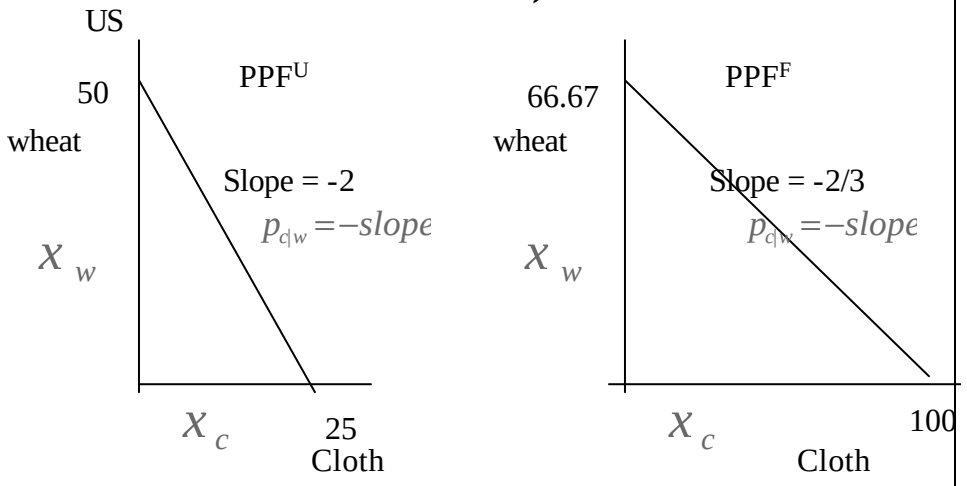
Example

Example modified from Adam Smith Section

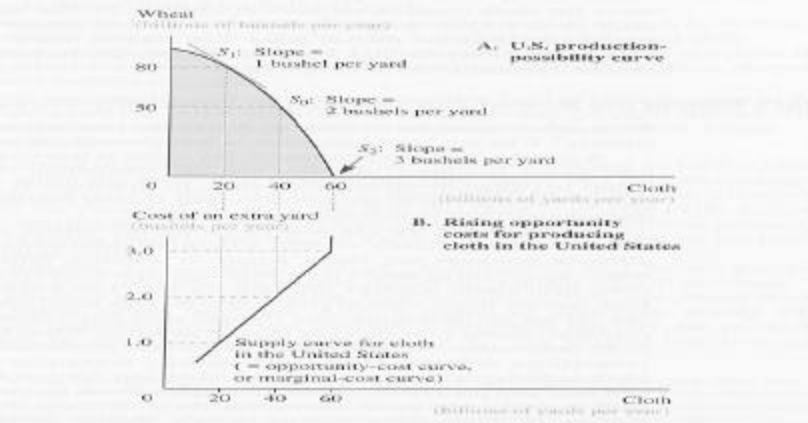
Labor hrs required to make	US	Rest of the World
1 bushel of wheat	2	1.5
1 yd of cloth	4	1.0

Each country has 100 units of labor.
One country has absolute advantage in production of both goods.
Would the countries benefit from trade?

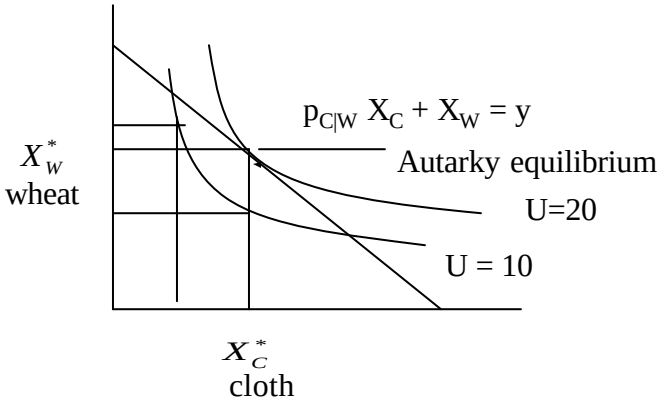
PPF (Production possibility frontier, or curve)



Increasing marginal cost of production



Community Indifference curve



Slope of the budget line is $-p_{W|C}$

Revenue maximization

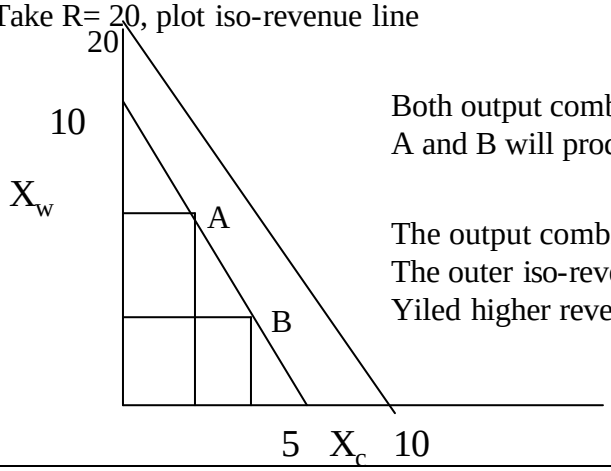
- $P_{c|w} = 2$, $p_w = 1$
- If we sell X_c and X_w units of cloth and wheat respectively, how much is the revenue, measured in our unit of account, I.e., wheat?
- It will be $R = P_{c|w} X_c + X_w$
- Draw the iso-revenue lines, and point out which ones give higher revenues.
- Show the output combination that maximizes revenue in the PPF. (draw on board)

Revenue maximization

$R = P_{c|w} X_c + X_w$ $P_{c|w} = 2$, $p_w = 1$

Take R = 10, and plot iso-revenue line

Take R= 20, plot iso-revenue line

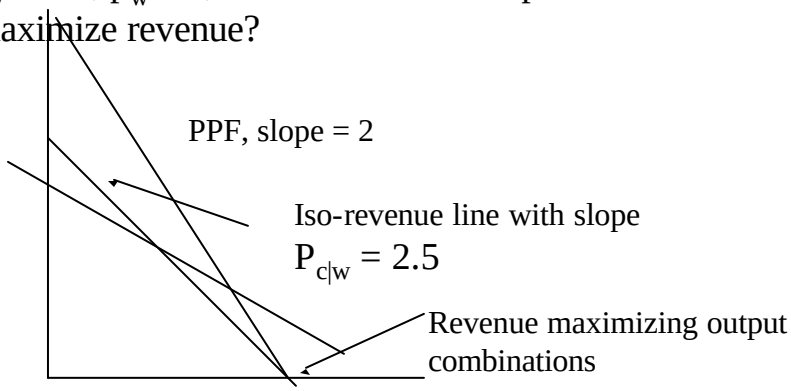


Both output combinations A and B will produce R = 10

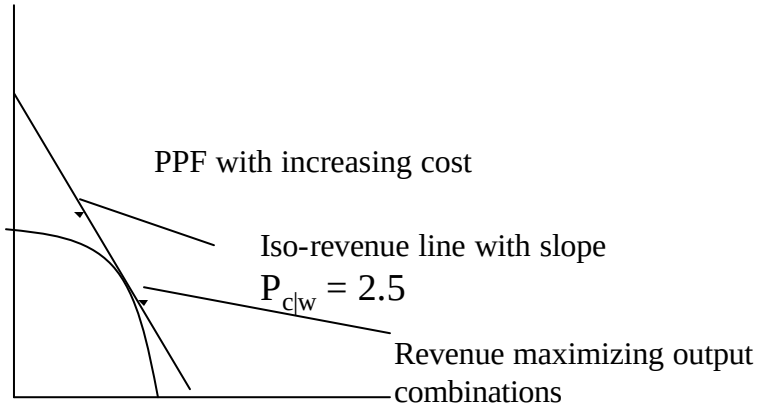
The output combinations on The outer iso-revenue line will Yiled higher revenue R = 20

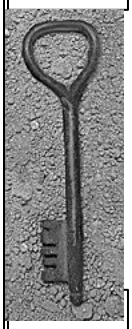
Revenue maximization (contd)

Suppose the produceres can produce any combinations of the two goods within the PPF, and suppose the prices of the goods are $P_{c|w} = 2.5$, $p_w = 1$, what will be the output combination That maximize revenue?



Revenue maximization with increasing cost of production





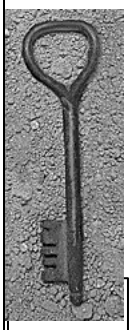
Summarizing …

With or without trade:

- Which combinations of goods will be actually consumed by the economy?
- Which combination of goods will be produced in the economy

Answer depends on the prices.

- Community indifference curve, utility maximization, gives demand curve for a good
- Revenue maximization, gives supply function

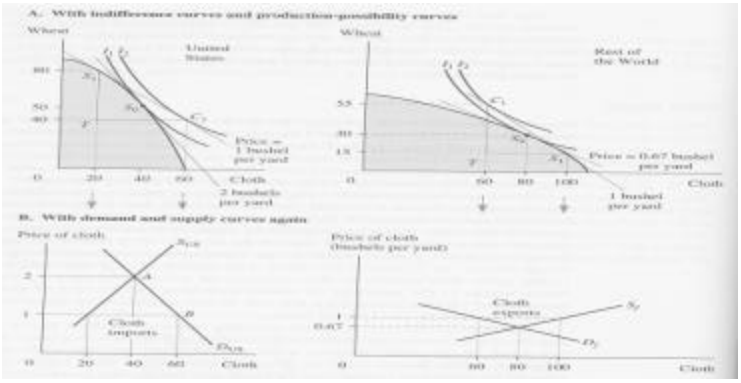


Main concepts of trade theory illustrated below

- Community indifference curves, utility maximization, demand curve
- Revenue maximization, and supply curve
- Autarky equilibrium prices (slopes) and quantities consumed in each country
- International price after free trade will be between two autarky prices
- At different prices, trade triangle
- Gains from trade

Figure 3.5

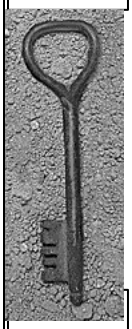
For the US and Foreign, suppose we have the following PPFs and indifference curves



Explain, demand, supply curves, trade triangle, autarky equilibrium
Gains from trade – due to pure trade, and due to specialization

Heckscher-Ohlin Theory

- Two factors of production: capital and labor
- Countries have identical technology
- Labor abundant/capital abundant
- Labor intensive/capital intensive

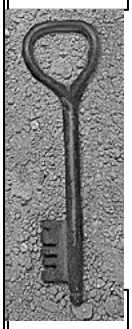


Factor Abundance and factor intensity

- Abundance defined in two ways:
  - First definition is based on relative factor quantities.
    - Country A is capital abundant if it has more capital per unit of labor than does country B.
      - If A is capital abundant, then B must be labor abundant.
    - This definition is used in the textbook.
- Second definition is based on factor prices.
    - Country A is capital abundant if the relative rental rate for capital in A is lower than in B.

Factor intensity

- Wheat is capital or land intensive, and cloth is labor intensive.



1st predictions of the Heckscher-Ohlin Theory

Prediction of the theory:

1)A country exports the product that uses their abundant factor Intensively. For instance,

$$\frac{\text{US land supply}}{\text{US labor supply}} > \frac{\text{Foreign land supply}}{\text{Foreign labor supply}}$$

Second prediction: (contd from Chap4)

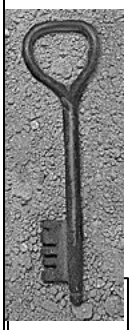
Stolper-Samuelson Theorem:

- Link between changes in output prices and changes in factor prices.
- Most general form: an increase in the relative price of a good increases the real return to the factor used intensively in that good's production and decreases the real return to the other factor.
  - Factor prices change proportionally more than output prices (*magnification effect*).
- When assumptions of Heckscher-Ohlin model are added, the Stolper-Samuelson theorem means that opening trade *raises* the real reward to the abundant factor and *lowers* the real reward to the scarce factor.
  - Trade boosts production of the good of comparative advantage, increasing that good's opportunity cost and relative price.

3rd Prediction: Factor price equalization theorem

The Factor Price Equalization Theorem

- According to Stolper-Samuelson theorem, moving from autarky to unrestricted trade raises the real reward of the abundant factor.
  - Similarly, such a move lowers the real reward of the scarce factor.
  - Same adjustment takes place in the second country, but with the roles of the two factors reversed.
    - Trade raises the real reward of a factor in a country where that factor is abundant and lowers its price in the country where it is scarce.
- Thus, even when factors are immobile between the two countries, unrestricted trade in goods tends to equalize the price of each factor across countries.
  - With free trade in goods and no international factor mobility, $w^A = w^B$ and $r^A = r^B$.



Does H-O theory explain actual trade pattern?

- Read pp.68-76. Also read, the box on p. 52 about China's production shift after opening-up trade.