## Who gains and who loses from International Trade?

Where are we?

✓ Adam Smith's theory of trade based on absolute advantage. (Productivity differences) (Done)

✓ Later Ricardo's theory based on comparative advantage (Productivity differences) (Done)

✓ Heckscher-Ohlin theory of comparative advantage based on differences in factor endowments, but countries share the same technology. (done)

Today we are going to do the following issues (chapter 4of PL)

➢ Predictions of Heckscher-Ohlin Theory:

➢ Who gains and who loses when a country opens up for trade?

➢ I will show a movie about trade and comparative advantage during the last half hour.

# Objective

♦ The reason for learning about who gains and who loses from free trade is to understand the economic incentives or motives of various types of people in an economy for supporting certain international trade related activities and others opposing.

♦ Examples: You always will notice that labor union generally oppose to immigration of labor, import of goods that use unskilled labor and covert argument of supporting stronger labor-standard requirements such as no child labor content etc in imported goods to discourage import of cheaper goods that displace jobs at home. You might recall Seattle demonstration. That is a very good example.

♦ I first review quickly the structure of the H-O model and then talk about all the predictions of the model and then talk about who gains and who loses. Then I show a video clip about International Trade (introduction, showing how it works, explaining the concept of comparative advantage etc.)

# Heckscher-Ohlin Theory (quick review)

- ♦ Two factors of production: capital (or land) 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

◆ A product is relatively labor intensive if the labor costs are a greater share of its value than they are of the value of other products.

◆ Example: wheat and cloth production, to produce a $1 worth of wheat, say rental cost is $0.8, and labor cost is $0.2 and to produce $1 worth of cloth suppose the rental cost is $0.3, and labor cost is $0.7. Then the production technology of which good is labor intensive, and which good is capital intensive?

◆ 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, suppose US is relatively land abundant, and the rest of the world is relatively labor abundant. I.e.,*

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

◆ Prediction of trade pattern is that US will – and the rest of the worls will

# Distribution of gains from trade

In understanding gainers and losers in free trade, we need the following distinctions:

♦ Workers, the owners of labor?

♦ Capital owner (or land owner)?

♦ Differences in the countries:

♦ Short-Run effect and Long-run effect and assumption about how fast resources could be reemployed in another sector once they are released in a sector. For instance, if labor in cloth producing sector became unemployed, how easily (depending on if labor needs retraining) can labor be absorbed in the expanding sector say wheat production sector. (Similarly for capital or land reemployment).

# Short-run and Long-run effects in the home country and the rest of the world

| | In the United States | In the Rest of the World |
|---|---|---|
| Initial prices: | Wheat cheap, cloth expensive | Wheat expensive, cloth cheap |
| | Trade opens: → wheat → ← cloth ← | |
| Prices respond to trade. | $P_{wheat}$ up, $P_{cloth}$ down | $P_{wheat}$ down, $P_{cloth}$ up |
| Production responds to prices.* | Produce more wheat. Produce less cloth. | Produce less wheat. Produce more cloth. |
| Crucial step— Factor demands change. | For each yard of cloth sacrificed, many acres laid off; extra wheat demands few workers and much land. | For each bushel of wheat sacrificed, much land and few workers laid off; extra cloth demands many workers and little land. |
| Factor prices respond. | Wage rates fall and rents rise (in both sectors). | Wage rates rise and rents fall (in both sectors). |
| Long-run results: | Prices equalized between countries. Countries specialize more. Net gains for both countries. Winners: U.S. landowners, foreign workers. Losers: U.S. workers, foreign landowners. | |

*At this point, the short-run effects come into play, but the economy continues to move toward the longer-run effects shown in the rest of this figure.

# 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.

# Example illustrating the factor price equalization theorem

♦ Go back to the slide about short-run and long-run effect and explain once again the factor price equalization mechanism.

3$^{rd}$ 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.

# H-O model (the whole picture)
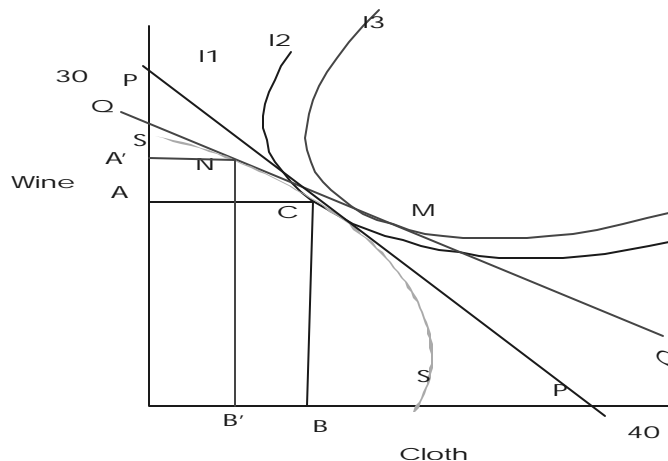


Autarky equilibrium- consumption point, production point (2) After trade – consumption point production point, gains for the whole economy, and gainers and losers as groups.

# Summary:

♦ Opening-up an economy to free trade leads to gains and losses for various groups (workers vs. capital owners) and the whole economy. Furthermore, it has effects on prices of the goods and factors of production such as labor skilled and unskilled, capital, land etc. Here are some of the main effects of free trade:

♦ Total income or GNP will go up if it is measured in the unit of the good imported.

♦ Total welfare of the whole economy will be higher.

♦ The prices of goods and the rewards of the factors such as wages and rental rates in both countries will all converge to common levels which are between the highest and lowest levels of the trading partners.

♦ In the long run, the workers in labor abundant country and capital owner in the capital abundant country will get higher rewards for their respective factors and opposite is the case for the other factors.

♦ The short-run effects may differ from the above long-run effect if it takes time to retrain labor or modify capital of one sector to be employed in the other sector.