

**Lecture 30**  
**Economics 181, International Trade**  
**Final Review**

- Answers to assignments posted on website
- If you want to be well prepared, do lots of practice problems!
- Last minute questions? Next Tuesday in my office at 329 Giannini, May 18, 1:45-3:15
- No calculators or notes please.
- Final will be on Wednesday, May 19, 5 to 8 pm, in 100 Lewis
- Format similar to midterm. More short answer
- Cumulative:  $\frac{1}{2}$  first half of course,  $\frac{2}{3}$  second half of course

**I. First Half of Course**

**A. Ricardian Framework**

- Only one factor of production; no distributional conflicts over gains from trade
- Technology is NOT the same across countries
- Shows why/how countries gain from trade as each specializes in the good in which it has a comparative advantage
- Even countries that have an absolute advantage in all goods gain from trade as long as the post-trade relative price differs from the autarky (=pre-trade price).

You should be comfortable with drawing PPFs, figuring out which country specializes in what, figuring out who gains from trade, determination of relative wages, and how to identify who specializes in which goods when there are more than 2 goods (extending the model to more than two goods).

**B. The Specific Factors Model**

- Assumes 3 factors, 2 goods (steel and corn). One factor is assumed to be mobile across sectors (usually labor, but it could be something else). Two factors are specific to each of the two goods—for example, capital is specific to steel and land is specific to corn.
- Need to be able to show what happens to the factor return to the mobile factor if the price of steel or corn rises or falls.

**C. The Heckscher-Ohlin Model**

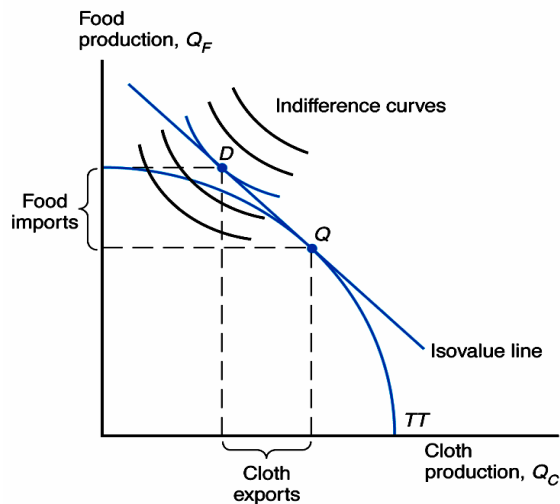
- Assumes that all factors are mobile (hence a long run model, while specific factors model can be thought of as the short-run model).
- Trade patterns are dictated by differences in factor endowments, NOT differences in technology. Technology is assumed to be the same across countries (driving the result that with trade, factor prices equalize across countries).
- Four important results: (1) the Heckscher-Ohlin Theorem (2) the Stolper-Samuelson Theorem (3) Factor-Price Equalization (FPE) and (4) the Rybczynski Theorem.

Can use the Stolper-Samuelson theorem to understand increasing inequality as an outcome of greater globalization. According to SS, trade leads to an increase in the return to a country's abundant factor and a fall in the return to its scarce factor. So if the US is abundant in skilled labor and scarce in unskilled labor, trade will lead inequality to rise. But difficult to prove the linkages (recall lecture on this).

You should be able to derive a PPF, figure out what happens to the PPF if the allocation of one factor rises, and show what happens to the return to labor or capital if the price of a good changes.

**D. The Standard Trade Model**

The last part of the first half of the course brings together all three models to present a standard model of trade. We draw a general production possibility frontier, with the price line (what is the slope?) tangent to the PPF at point Q. The economy below produces at Q but consumes at D. You should be able to derive quantities of exports and imports from these types of diagrams.



A country's terms of trade are defined as :  $TOT = P_{export}/P_{import} = P_e/P_i$   
 If your TOT rise (ie  $P_e$  rises or  $P_i$  falls), welfare rises. (ie you are better off).  
 Below, the country exports cloth. If  $P_{cloth}$  rises, what happens?

- (1) The production of cloth rises
- (2) The country's terms of trade improved
- (3) Welfare increased; the country is now on a higher indifference curve.

You should also be able to show what happens with the imposition of a tariff in general equilibrium, showing both the change in the slope of the budget constraint, the shift outward due to tariff revenues, and the original budget line through the new production point.

## II. Commercial Policy.

In commercial policy, we covered the impact on welfare in small and large countries of the following types of trade policy instruments:

- 1) Tariffs and Lerner symmetry
- 2) Quotas
- 3) VERs
- 4) Export Subsidies
- 5) Export Taxes
- 6) Less than fair value cases (countervailing and anti-dumping duties)

You should be able to mathematically identify the impact of tariffs and quotas on prices, quantities, and welfare in the small and large country case. You had several assignments that gave you practice doing these types of problems, and there are more available in the study guide (three copies on reserve in the library)

## III. Other Trade Policy Issues

- 1) Regional Trade Agreements: Welfare effects of trade creation and trade diversion
- 2) WTO and reciprocity
- 3) Multilateral trade agreements
- 4) Trade and the environment (environmental Kuznets curve)
- 5) Trade and labor standards (arguments for and against labor standards)
- 6) Trade and Growth (empirical evidence and theory)

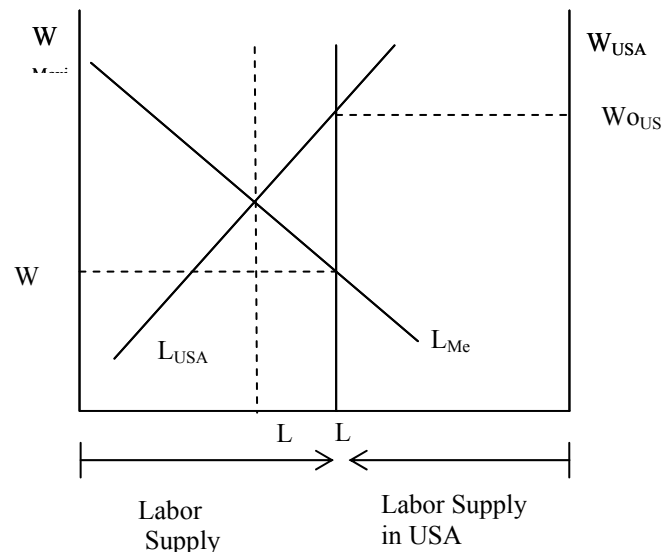
## IV. Factor Movements

### A. Foreign Direct Investment

- Importance (Data), where it goes, magnitudes
- Why FDI? Market-seeking, Factor-Seeking, Internalization, Exchange Rate Hedging
- Impact on host countries: pollution haven hypothesis, technology transfer, wages

### B. Immigration

- Causes of Immigration (see graph)
- Consequences of Immigration



## V. Monopolistic Competition, Increasing Returns, and Strategic Trade Policy.

### A. Monopolistic Competition

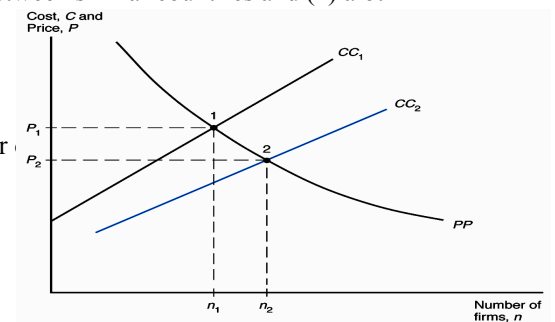
- Focus so far on two explanations for trade (1) differences in technology (2) differences in endowments.
- Good for explaining North-South trade, or trade based on differences in natural resources.
- BUT recent patterns of trade indicate that (1) large share of trade between similar countries and (2) alot of two-way trade in the same sector (“intraindustry” trade).

$$P = MC + \text{markup} = MC + 1/bxn$$

So as  $n$  rises,  $P$  falls. We can draw this relationship between the number of firms  $n$  and the price  $P$  curve.

$$P = AC = nF/S + C. \text{ As } n \text{ rises, } AC \text{ rises so } CC \text{ curve slopes upwards.}$$

What does trade do?  $S$  rises (size of market) which lowers  $AC$ . So get rightward shift of  $CC$  curve, with equilibrium at Lower  $P$  and  $AC$  and bigger  $n$ . With trade, get lower prices and Average costs, more variety, and each firm produces more output  $Q$ .



### B. Other Types of Increasing Returns

Learning by doing  
External economies

Summarizing the impact of trade in industries with increasing returns to scale, differentiated products and imperfect competition:

- Pattern of trade cannot be explained by some systematic differences among countries, but is due to historical incidence and government policy.
- Trade is driven by economies of scale, love of variety, imperfect competition
- Yields intra-industry trade
- Trade Liberalization does not generate the stark distributive conflict within a country, although some firms may go out of business as firms rationalize production.
- Trade can generate conflicts among countries as some of them employ trade restrictions and other industrial policies to foster or capture industries that are regarded as particularly desirable for a modern nation.

C. Strategic Trade Policy (Mostly relevant for Developed Countries)

- Reaction Functions
- Strategic Trade Policy: Shifting profits towards home country firms
- Shortcomings of the approach and assumptions necessary to use it
- Mathematics behind reaction functions