Lecture 14
Economics 181, International Trade
Midterm Review

- Answers to assignments 1 and 2 posted on website
- If you want to be well prepared, do lots of practice problems (study guide on reserve in library)
- Past midterms and answer keys on website
- Last minute questions? My office Monday 12-2, TAs also have office hours on Monday: 10:15-1 and 2-4. All in Giannini Hall, third floor.
- No calculators or notes please during the exam. No blue books necessary

I. Ricardian Framework

Contributions and assumptions:

- 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).
- Can you show all the ways to illustrate gains from trade?

Relative price of X in terms of Y = opportunity cost of X in terms of Y

= unit labor requirement for X/Y = ax/ay.

So if unit labor requirements given by the following:

	Cheese	Wine	Relative price of cheese in terms of wine?
Switzerland	4	8	
France	3	1	

Who has absolute advantage in cheese? In wine?
Who has a comparative advantage in cheese? In wine?
Where will post-trade relative price of cheese in terms of wine settle?

Given the total labor endowment, you should be able to graph the PPF for France or Switzerland. Assume that Switzerland has an endowment of 80 and France has an endowment of 60:

How can you show that there are gains from trade on the PPFs above, assuming that after trade the price settles at 2?
If the price after trade settles at 2, what does the world supply curve for cheese relative to wine look like?

At what price is there complete specialization?
At what price is Switzerland incompletely specialized?
At what price is France incompletely specialized?
At what price will both countries specialize in cheese?

Extensions: many goods. Recall that exporter as cost advantage (costs = prices = a*w)

II. 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. What happens to the allocation of labor across the two sectors? Let's assume that the price of steel rises:

- What happens to the return to capital? To land?
- What happens to the nominal return to labor? The real return?
- Contribution of this framework: while it remains true that there continue to be gains from trade, model makes clear the distributional conflicts that arise in opening up to trade.

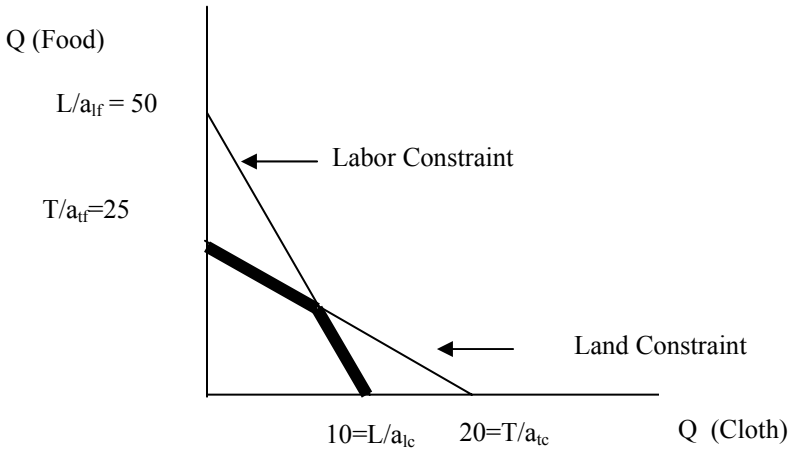
III. The Hechscher-Ohlin Model

- 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). So what does SS imply should happen in developing countries if they are well endowed with unskilled labor?
- Can you manipulate Edgeworth Boxes?
- Evidence for and against this model?

Deriving the PPF in this framework: labor and land unit requirements

	Labor	land	(L)	(T)
Cloth	$a_{lc} = 10$	$a_{tc} = 5$	100	100
Food	$a_{lf} = 2$	$a_{tf} = 4$	100	100

So now we draw the PPF (production possibility frontier) with two factors:
Clothing is more labor-intensive
Food is more land-intensive



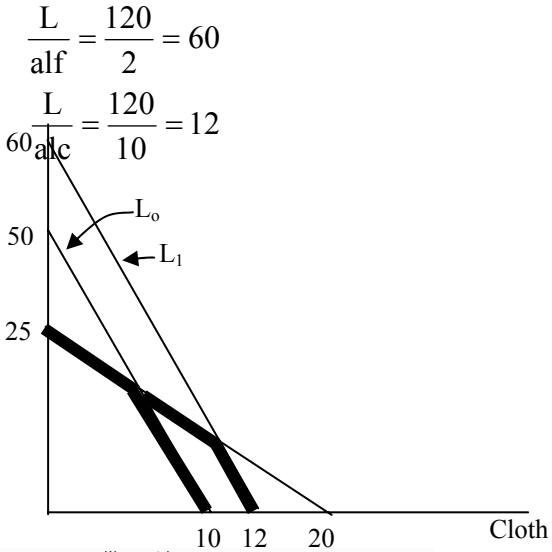
Where is the PPF exactly? Food production is "bounded" by the land requirement and cloth production is "bounded" by labor. The PPF is the internal shaded area--it is now kinked.

What happens if the endowment of labor expands? According to the Rybczynksi theorem, we would expect the production of cloth to increase by more than the increase in the endowment of labor, and the production of food to fall. Intuition: cloth production was "bounded" before by a lack of labor.

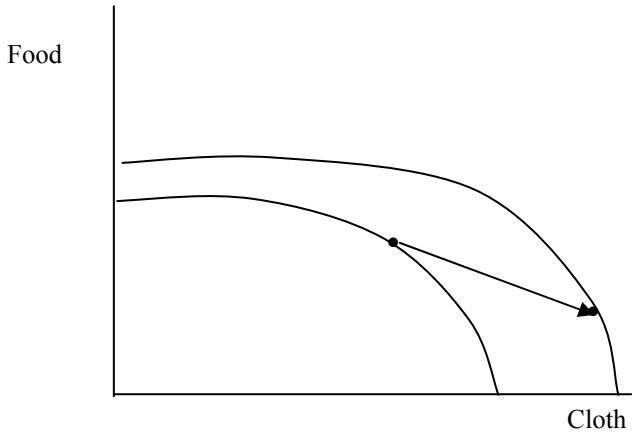
Say labor increases to 120 then we get:

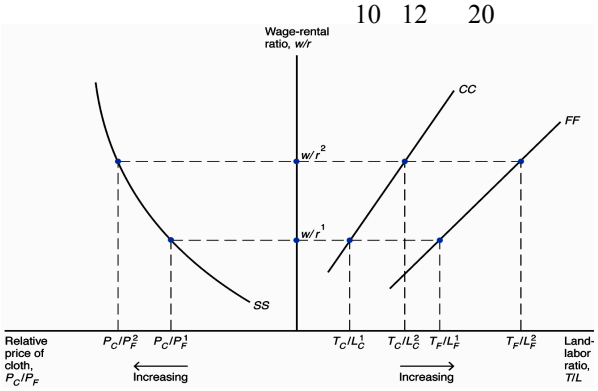
$$\frac{L}{alf} = \frac{120}{2} = 60$$

$$\frac{L}{alc} = \frac{120}{10} = 12$$



Labor Constraint shifts Out:



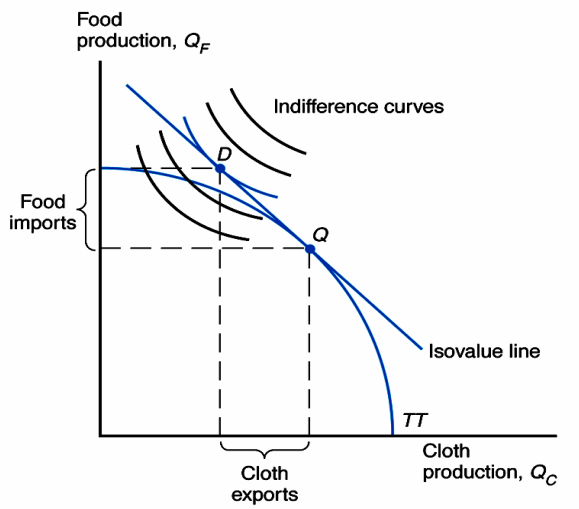


Graph at left shows that if Price of Cloth increases, return to factor used Intensively to produce cloth rises, and both

Sectors reduce their use of that factor.
Left quadrant illustrates SS; right quadrant
Indicates factor intensity and how it changes
With changes in factor prices.

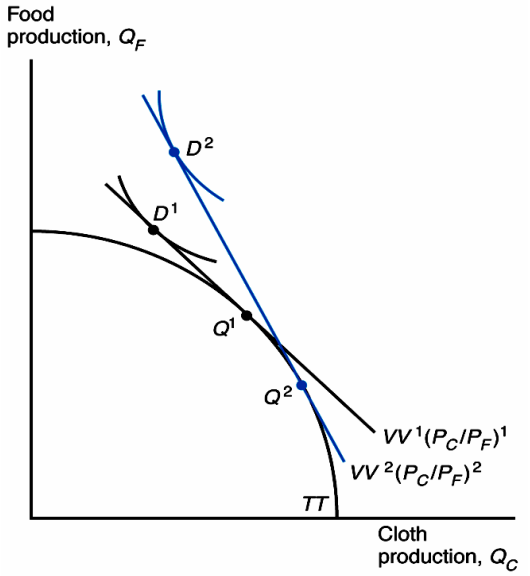
IV. The Standard Trade Model

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 = Pexport/Pimport = Pe/Pi
If your TOT rise (ie Pe rises or Pi falls), welfare rises. (ie you are better off).
Below, the country exports cloth. If Pcloth 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.



Trends in terms of trade for developed and developing countries (class notes, textbook)

IV. Globalization, Inequality and Poverty

- Increasing inequality within the US and many developing countries
- Is trade the explanation? What are other explanations? Policy solutions?
- What are the links between poverty and globalization?

Policy solutions (too rushed last class)

(1) Protection. No economists are advocating this, NOT even the authors (such as Adrian Wood, in your reading), who actually believe that trade is a major explanation for increasing inequality. So among economists, those who believe that trade policy caused inequality to increase and those who don't actually agree on the policy recommendations, which makes the debate over causes somewhat silly from a policy viewpoint. So what do the economists advocate?

(2) Believe in the market and do nothing. If market forces truly work, then the increasing returns to college education and collapsing market for lower skilled workers should lead more workers to go to college, reducing the pool of unskilled workers.

(3) With credit market constraints and uneven educational opportunities across regions (schooling quality is a function of local conditions, not uniform), the market is very unlikely to correct the problem.

As the income of current unskilled workers falls, particularly in the face of imperfect credit markets, then borrowing against future earnings may be difficult--making it impossible to finance the additional education necessary to escape the lower wage ranks. This problem is compounded by the fact that primary and secondary education is largely locally financed, making it harder for the unskilled or their children to acquire an education in the early years.
One solution: reducing credit market imperfections to allow people to borrow against future earnings--ie increase opportunities to borrow for college.

(4) Worker training.

German and Japanese firms provide much more worker training than do US firms. As a result, these firms can treat college-educated and non-college-educated workers as much closer substitutes in production than US firms. Another difference is that in the US, worker training is concentrated among the most skilled workers--exacerbating the wage and skill gaps. To what extent should we expand training opportunities for workers, and what should the government's role be?

(5) In the context of the current debate over outsourcing, emphasis is on providing more social safety nets, universal health insurance, portability of pensions, side-agreements on labor and the environment that cushion short run costs of trade. Krugman argues that without these safety nets, we could easily revert to a protectionist world, which would be harmful to all countries.

V. Foreign Direct Investment (FDI) OR Direct Foreign Investment (DFI)

Reasons why foreign investment occurs:
(1) Market-seeking
(2) Factor-seeking
(3) Internalization (intangible assets)
(4) Exchange Rate hedging

Evidence on FDI. Mostly between rich countries, but that is changing. Broad trends (see data).