International agricultural markets, trade and development

Rodney Beard

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Readings

Some books I will use:

- Markusen et al. International Trade: Theory and Evidence (available on-line)
- A. Maddison, The World Economy: A millenium perspective, OECD, 2006.
- H. Siebert, The World Economy,
- D. Gowland, International Economics

The Ricardo Model

Two countries

- One factor of production
- This factor of production is internationally immobile (labor)
- Two sectors in the economy, i.e. two goods are potentially produced by each country
- Goods are perfectly divisible (commodities)
- Production is linear so land is employed in each sector in fixed proportions
- Labor is in limited (fixed) supply

Example - Wine and Cloth

‘England may be so circumstanced, that to produce the cloth may require the labour of 100 men for one year; and if she attempted to make the wine, it might require the labour of 120 men for the same time”. -David Ricardo,
“To produce the wine in Portugal, might require only the labour of 80 men for one year, and to produce the cloth in the same country, might require the labour of 90 men for the same time”.
Ricardo doesn’t specify how much labor is available but this is implied and assumed to be fixed (Take the population and multiply hours worked per day and days worked per year)

England

The wine versus cloth labor constraint

$$100C + 120W = 1000$$

http://www.napoleon-series.org/research/abstract/population/population/britain/c_population1.html

Portugal

$$90C + 80W = 1000$$

Question

- How much wine can at most be produced in England?
- How much cloth can at most be produced in England?
- How did you work out the answer?

The Answer

$$\frac{Totallaborsupply}{requiredlabor}$$

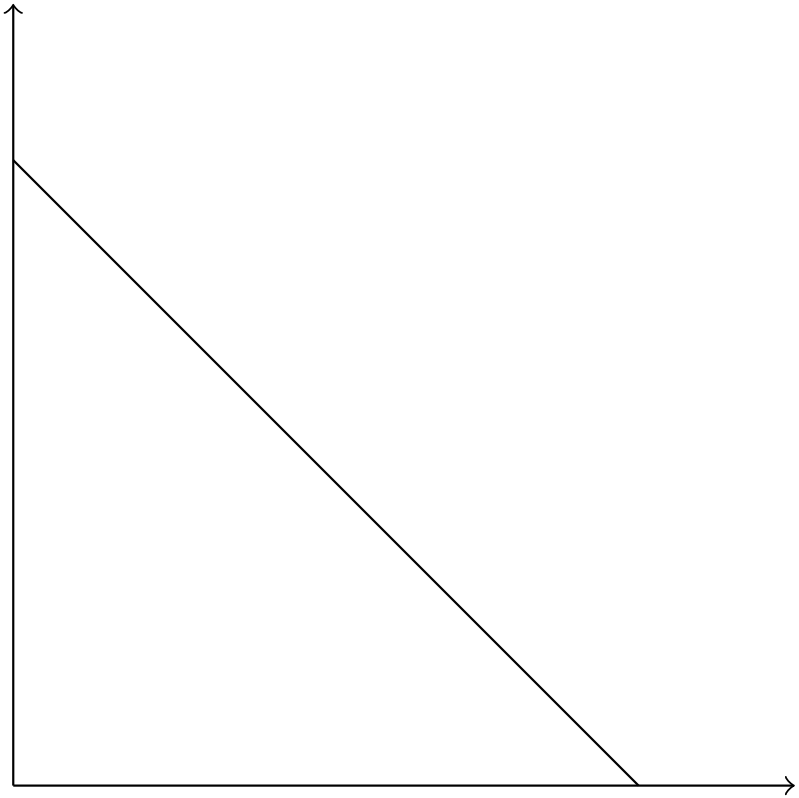
Perfect divisibility

Perfect divisibility of goods means we can examine combinations of production of wine and cloth that use up all the labor.

divisibility of labor

We can graph the maximum amount of wine and cloth that can be produced for all possible divisions of labor with a straight line linking the maximum amount of cloth that can be produced to the maximum amount of wine that can be produced

Ricardian production possibilities



What is the slope of this line?

$$-\frac{\text{Total labor}}{\text{required labor for wine}} \Big/ \frac{\text{total labor}}{\text{required labor for cheese}}$$

$$= \frac{\text{required labor for cheese}}{\text{required labor for wine}}$$

This ratio will be very important in determining the pattern of specialisation in each country and therefore which country exports which product and which country imports which product you should recognise it as the marginal rate of transformation

Policy question

Should a country produce wine, produce cloth or some mixture of both?

- One answer would be to produce wine because it requires less land
- But what if the price of wine is low and the price of cheese high perhaps it is better to produce that which has the highest price
- Perhaps not specialising but allowing people to consume what they produce in other words not trading
- What should be done?

Should a country try and earn as much as possible through exports?

- Assume the price of wine is $ 3 per litre a litre and the price of cloth $ 2.50 per kilogram
- One might argue that it is better to produce wine because one receives a higher price for it.
- If this is what we did how much would we earn if we devoted all the land to cloth production?

Exporting high priced items

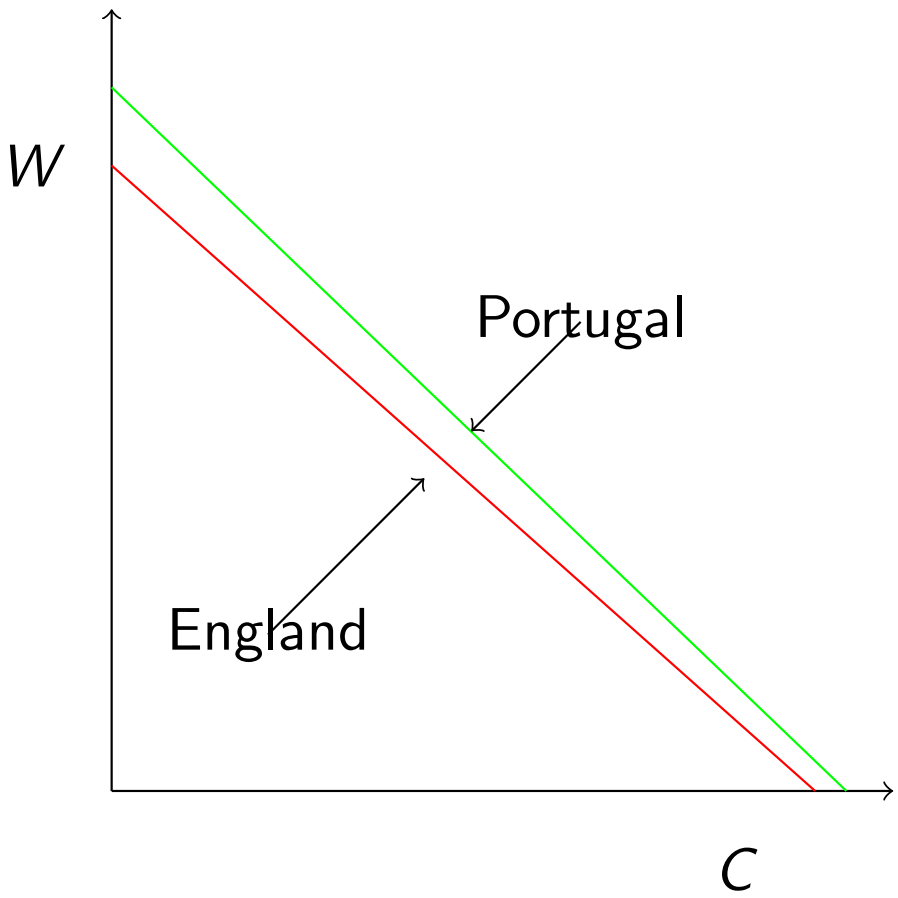
- If all the labor is devoted to cloth production we would produce 10 units of cloth and earn $ 25
- But if we devoted all the labor to wine production we would produce 8.3 litres of wine and earn $ 25
- So producing and exporting the product with the highest value is not necessarily better (it is possible to construct examples where the lower valued product generates more revenue).

Remember the budget line

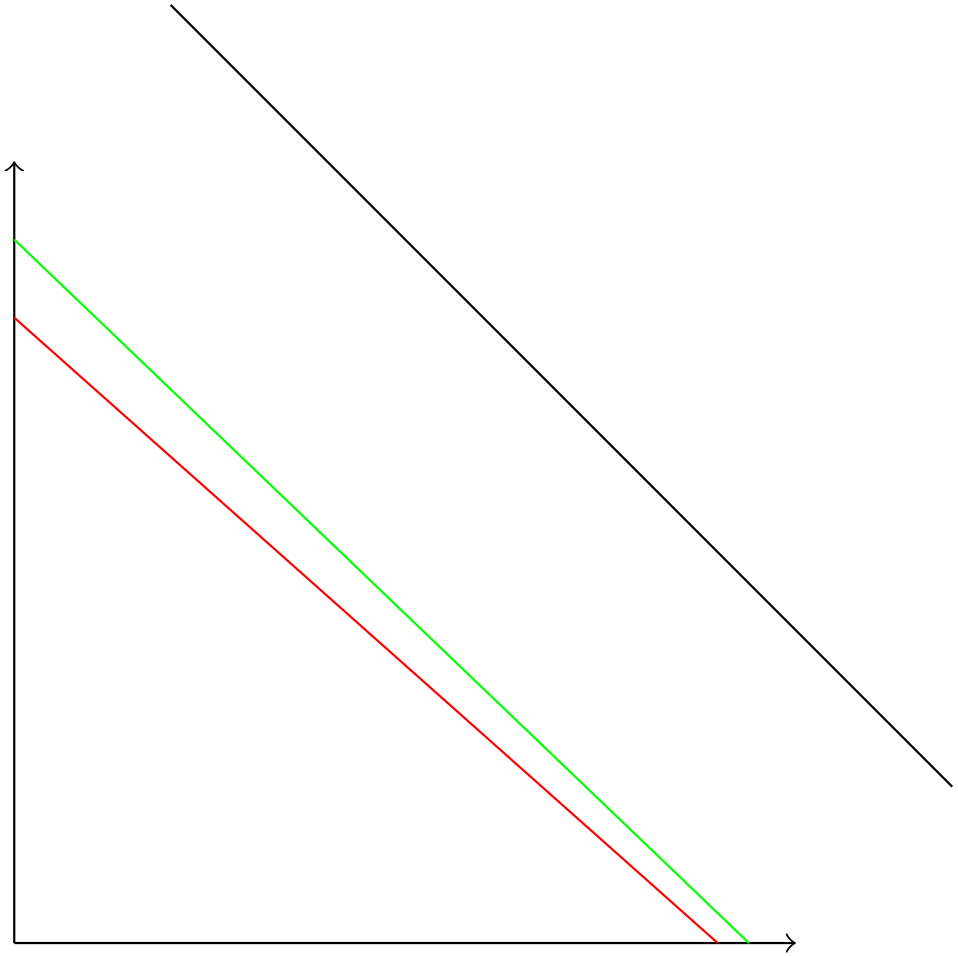
- The slope of hat the budget line was just the ratio of prices
- We know the ratio of prices for wine and cloth we also know that if we specialise in wine production we earn 25 this is the maximum value that we can earn if we specialise (the other alternative was 25)
- The price of cloth was 2.5 ignoring for the moment whether its possible or not how much cloth would we have to sell to earn $ 25?

The Export Value Line

- This gives us the intercept for the export value line.
- So this intercept can be interpreted as the amount of cloth we have to sell to be able to earn the same amount that we can earn if we specialise in wine production.
- We can add this to our graph


W
Portugal
England
C

Maximizing the value of production



If prices change what we should specialise in should change! This is just a graphical solution to a linear mathematical programming Problem!

To be ontinued

Thanks for listening!