

INTERNATIONAL ECONOMICS

HomeWork #2

15/11/2013

1. Heckscher-Ohlin

- State the four main results of the Heckscher-Ohlin(H-O) model in your own words. Then categorize them in terms of prices vs. quantities and local vs. global.
- Graphically depict a free trade situation involving two countries and show how both countries gain from trade.
- In the H-O model if product prices change, how will factor prices change? Explain graphically and/or mathematically, in your answer illustrate the magnification effect. Explain how this result qualifies your finding in (b).
- What does it imply about the effect of trade on the real rewards of the two factors?

2. Ricardian versus Heckscher-Ohlin

Consider a world with two countries, Botswana (B) and South Africa (S). They both produce two goods denoted X and Y . Using labour (L) and capital (K) as the only two inputs in the production process. The production technology for the output of each good in country $v = \{B, S\}$ is given by:

$$X^v = A_x^v (K_x^v)^\mu (L_x^v)^{1-\mu}, \quad Y^v = A_y^v (K_y^v)^\sigma (L_y^v)^{1-\sigma},$$

where $0 < \mu, \sigma < 1$, and $\sigma > \mu$.

A_x^v , is the total factor productivity (TFP) in sector X in country v . A_y^v , has the same interpretation

Thus, TFP represents the level of technology in each sector. Assume perfect mobility of factors across the two sectors within each country and perfectly competitive markets.

- Assuming autarky, and denoting prices by p_x^v and p_y^v , setup the profit maximization problem of the firm in each sector in country v and obtain the first order conditions.
- Use the first-order conditions to express the capital-labor ratio of each sector as a function of the wage-rental ratio (w_v / r_v).
- Use the result from the previous part to derive an expression for the price ratio (p_x^v / p_y^v).
- Explain how this model has both, Ricardian and Heckscher-Ohlin, forces to explain the differences in comparative advantage.
- When these countries trade (suppose the world prices are p_x^* and p_y^*), will factor price equalization hold?