

### Problem Set 3: The Heckscher-Ohlin Model

1. Consider two countries, Spain and Italy, where the only two factors of production are capital and labor. Spain has 100 units of capital and 400 units of labor. Italy has 200 units of capital and 100 units of labor. Both countries produce two goods, cheese and suits. The labor share in total production costs is 75% for cheese but only 25% for suits.

- a) Is Italy capital abundant? Explain why
- b) Are suits capital intensive? Explain why
- c) Which good will Italy export under free trade?

2. Suppose two countries, Greece and Australia, produce wine and wheat using labor and capital as factors of production. Suppose Greece is capital-abundant and wheat production is labor-intensive. For each of the following, indicate whether there is an increase, decrease, no change, or unable to determine, as the two countries shift from autarky to free trade:

	Greece	Australia
Relative price of wine		
Quantity of wine production		
Quantity of wheat production		

3. Belgium is relatively well endowed with skilled workers compared with China, which is relatively well endowed with unskilled workers. Assume that the production of pharmaceutical products intensively uses skilled workers and the production of toys intensively uses unskilled workers.

- a) Which country would you expect to have a higher relative wage in skilled labor with no trade?
- b) Which country has the higher relative price of pharmaceutical products prior to trading?
- c) Under free trade, which country experiences an increase in the relative wage of skilled workers? Explain.

4. Compare the basis for trade between the Ricardian model and the Heckscher-Ohlin model

- a) List the main assumptions of each model
- b) How do assumptions lead to differences in the pattern of trade between countries in each of the models?

5. Consider two countries, Vietnam and China, producing two goods, textile and televisions. Suppose that textile is relatively labor intensive. Vietnam has 20 units of capital and 16 units of labor and China has 300 units of capital and 150 units of labor.
- a) Which country is relatively capital-abundant? Explain
  - b) Which country will export textiles? Explain
  - c) In Vietnam the production of which good decreases under trade? In China?
  - d) In China, is the relative price of televisions higher under free trade or no trade? Explain
  - e) Which group benefits from trade in China? In Vietnam?