ECON 151: Microeconomics

Fall 2023

Homework 5

1. In the United States, the opportunity cost of 1 ton of corn is 50 bicycles. In China, the opportunity cost of 1 bicycle is 0.01 ton of corn.

a. Determine the pattern of comparative advantage.

b. In autarky, the United States can produce 200,000 bicycles if no corn is produced, and China can produce 3,000 tons of corn if no bicycles are produced. Draw each country’s production possibility frontier, assuming constant opportunity cost, with tons of corn on the vertical axis and bicycles on the horizontal axis.

c. With trade, each country specializes in its production. The United States consumes 1,000 tons of corn and 200,000 bicycles; China consumes 3,000 tons of corn and 100,000 bicycles. Indicate the production and consumption points on your diagrams, and use them to explain the gains from trade.

2. Explain the following patterns of trade using the Heckscher–Ohlin model.

a. France exports wine to the United States, and the United States exports movies to France.

b. Brazil exports shoes to the United States, and the United States exports shoe-making machinery to Brazil.

3. Due to a strike by truckers, trade in food between the United States and Mexico is halted. In autarky, the price of Mexican grapes is lower than that of U.S. grapes. Using a diagram of the U.S. domestic demand curve and the U.S. domestic supply curve for grapes, explain the effect of the strike on the following.

a. U.S. grape consumers’ surplus

b. U.S. grape producers’ surplus

c. U.S. total surplus

4. What effect do you think the strike will have on Mexican grape producers? Mexican grape pickers? Mexican grape consumers? U.S. grape pickers?