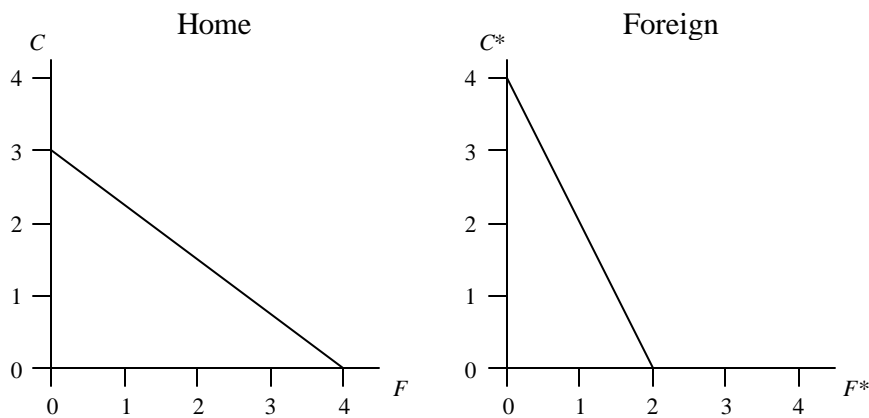


Midterm Exam
July 15, 2002

Answer all questions, in blue book. Plan ahead and budget your time. The questions are worth a total of 80 points, as indicated, and you will have 80 minutes to complete the exam.

1. [32 points] The graph below shows production possibility frontiers for two countries, Home and Foreign, producing two goods, Food and Cloth. Home is endowed with 120 units of labor, while Foreign has 160 units of labor.



- a. (4 points) What are the unit labor requirements of the two countries for producing the two goods, a_{LF} , a_{LC} , a_{LF}^* , and a_{LC}^* ?
- b. (4 points) Which country, if any, has an absolute advantage in Cloth? Which has absolute advantage in Food? Which has comparative advantage in Cloth? Which has comparative advantage in Food?
- c. (16 points) Copy the diagram to your blue book, making sure to keep approximately the proportions shown above, although you may omit the numbers. Then use the diagram as you've drawn it to illustrate, for plausible preferences, both autarky and free-trade equilibria for a world consisting only of these two countries. If there are quantities, distances, or slopes that should be equal in order for your diagram to represent equilibrium, be sure either that they look equal or that you say that they are. In your diagram, label the points where production takes place as S^A and S^{*A} for autarky in the Home and Foreign countries respectively, and S^T and S^{*T} for trade. Label the points where consumption takes place correspondingly as D^A , D^{*A} , D^T , and D^{*T} .
- d. (8 points) Suppose now that the Foreign labor force increases from 160 to 180. On a separate page (that is, don't try to add this to the diagram of part (c)), use whatever tools you need to work out how this will affect the world relative price of Food.

2. [27 points] Use the Heckscher-Ohlin Model to examine how capital accumulation in one country will affect the real rental price of capital in another. Specifically, use the tools of the HO Model with two factors (labor and capital), two goods (labor-intensive Food and capital-intensive Cloth), and two diversified countries (Cloth-exporting Home and Food-exporting Foreign) to do the following:
 - a. Show, for given prices, how an increase in the Home country's capital stock will affect its relative supply of Food.
 - b. Show how the change in relative supply of Food that you found in part (a) will affect the equilibrium world relative price of Food.
 - c. Show how the change in world relative price of Food that you found in part (b) will affect the real rental price of capital in the Foreign country.

3. [21 points] You are a worker (supplier of labor) in a relatively labor-intensive industry that is about to experience a 10% drop in price due to import competition. Based on the Heckscher-Ohlin and Specific Factors models, and assuming in all cases that the country produces and continues to produce both goods, determine under which of the following scenarios you will be *best off* in real terms, under which you will be *worst off*, and show why:
 - a. Both labor and capital are immobile between industries.
 - b. Capital is immobile between industries, but labor is mobile.
 - c. Both labor and capital are mobile.