

Economics 514: International Trade Theory and Policy

Problem Set 2

Due April 20, 1999

1. You have to advise a poor country whether to build a steel mill and are given the following data:

Domestic price of steel	£ 150 per ton
Tariff on steel	£ 50 per ton
World price of steel	£ 100 per ton
Cost of steel on the project	£ 120 per ton

- a. What is your advice, assuming the government is determined to maintain the tariff and there are no other distortions in the economy?
 - b. What if this country plans to join a free trade area or a common market?
2. Offer curves
 - a. Derive the shape of the offer curve of the following country by showing how exports and imports vary with p_x / p_y :

Transformation curve: $X^2 + Y^2 = K^2$,

Utility function: $U = xy$,

where capital letters (X,Y) indicate quantities produced and lowercase letters (x, y) indicate quantities consumed and K is amount of resources and technology. Hint: take world prices as given and maximize value of output, then maximize utility subject to the trading budget constraint.
 - b. Suppose there was another country (*) with the same transformation curve and utility function. Would you expect them to trade?
 - c. If the * country had the same tastes but the transformation curve below, in which direction would trade occur?

Alternate * Transformation curve: $X^2 + (Y-B)^2 = K^2$.

3. Offer Curves. The offer curves for two countries are

Home: $y = Ax^\alpha$ $0 < \alpha < 1$ $A > 0$

Foreign: $y = Bx^\beta$ $\beta > 1$ $B > 0$

- a. For each country, find the relation between x and p_x / p_y . Which country is the importer of x ? Hint: Use the balanced trade condition from the budget line.
 - b. Find the equilibrium world price and quantities of x and y in terms of A , B , β , and α .
4. Which of the following are potentially valid arguments for tariffs or export subsidies, and which are not (explain your answers)?
- a. "The more the U.S. imports, the higher the price of oil will go in the next world shortage."
 - b. "The growing exports of off-season fruit from Chile, which now account for 80% of the U.S. supply of such produce as winter grapes, are contributing sharply to falling prices of these former luxury goods."
 - c. "U.S. farm exports don't just mean higher incomes for farmers, they mean higher income for everyone who sells goods and services to the U.S. farm sector."
 - d. "Semiconductors are the crude oil to technology: if we don't produce our own chips, the flow of information that is crucial to every industry that uses microelectronics will be impaired."
 - e. "The real price of timber has fallen 40%, and thousands of timber workers have been forced from their jobs."