

**Economics 39F**  
**Problem Set 3**

1. Consider a world of two goods, automobiles and lumber, and two countries, the United States and Canada.

a). Using the Basic Trade Model, graphically depict autarky equilibria for the two countries, in which the United States has a comparative advantage in automobiles.

b). Next assume that acid rain in Canada is an increasing function of automobile production in the United States (Canadian automobile production is assumed not to contribute to the Canadian acid rain problem). Will a move from autarky to free trade worsen or improve the acid rain problem in Canada? Support your answer with a graph.

c). Finally, describe graphically a production subsidy policy which, if pursued by the United States government, could keep Canadian acid rain at its autarky level and still allow the United States to enjoy some of the gains from trade with Canada.

2. Suppose that the preferences of country A and country B differ, but that each is inflexible: country A consumes food and clothing in proportions 2:1 (at any prices), while country B always consumes food and clothing in equal proportions (1:1). The two countries have identical bowed-out production possibilities frontiers. What happens to country A's terms of trade if it makes a consumption loan to country B? Is there a secondary burden of the loan?

3. Draw an initial free-trade equilibrium for a small country facing fixed world prices, depicting its production possibilities frontier and relevant indifference curves.

a). Indicate in your diagram the rate of the tariff that would completely wipe out trade between this country and the rest of the world.

b). What happens to production and consumption if legislators are over-zealous and the tariff rate is set higher than this rate?

4. In class we assumed that the government redistributes tariff proceeds back to the private sector. Instead, suppose the government spends the tariff revenue in a manner that differs from that of private citizens. Consider two extreme forms of public spending: (i) the tariff revenue is spent only on clothing, the commodity exported, and (ii) the tariff revenue is allocated instead to the purchase of food.

a). Which scheme is more likely to be favored by producers who have clamored for import protection?

b). What might happen to the terms of trade in case (ii)?

5. True/False Explain: According to the Basic Trade Model, if a country is “large” in world markets and experiences a technological improvement in the good that it exports, then the country’s terms of trade must decline.