Homework 2

due: on Friday, 02/07/03, at noon

Problem 1: Last year, the U.S. government introduced a 30% tariff on imports of steel. The U.S. is an important importer of steel in the world market (in other words, it is a large country).

a) Explain what happens to the world and the domestic price of steel.

b) Graphically discuss the welfare effects of the tariff on the different domestic groups involved, i.e. consumers, producers, and the government. Show that the optimal tariff is greater than zero.

c) Demonstrate in a general equilibrium context (the PPF diagram) how the U.S. potentially increases its welfare by means of this import tariff.

d) Show that the world as a whole must be worse off, irrespective of whether other countries retaliate.

Problem 2: Consider the automotive industry in a given country. Suppose it has a market structure of monopolistic competition. Each producer has fixed costs of 100 million and marginal costs of 10,000 per car. Each faces demand of the form $Q = S(1/n - (P - \bar{P})/200)$ where S, the total number of cars sold in this country, equals 2 million cars.

a) Derive the marginal revenue of each producer (assuming that they are too small to affect the average price $\bar{P}$). Set $MR = MC$ as a profit maximizing monopolist does and use the symmetry assumption to derive the price P as a function of the number of firms n.

b) In a diagram with P and average cost AC on the vertical axis and the number of firms on the horizontal axis, graph the relationship derived in a) as well as the average costs. Explain the intuition behind the slopes of these curves.

c) Calculate the equilibrium number of firms and the equilibrium price of a car in this country.

d) Now, let there be four such countries, each with a domestic market of 2 million cars. Cars can be freely trade between these countries. Calculate the free trade equilibrium number of companies as well as the new equilibrium price of a car.

e) Elaborate on the different types of gains from trade in this framework.

Problem 3:

a) List different forms of regional economic integration and explain their characteristics.

b) Research the total number of PTAs in the world. Also try to find numbers for each of the types identified under a). Be sure to cite the sources of your findings.

c) Explain trade creation and trade diversion in the context of preferential trading arrangements.

d) "PTAs: a step forward or a hurdle on the way to global free trade?" Discuss possible answers.