Economics 101 — Fall 2003

International Trade

Mock Midterm Exam 2

November 5, 2003

Time: **40 minutes**
Total score: **40 points**

1 Trade and Growth: 10 minutes

Consider a Standard Trade model. Comparative advantage may stem from productivity or endowment differences.

There are two goods: Machinery and food. Machinery production is intensive in capital.

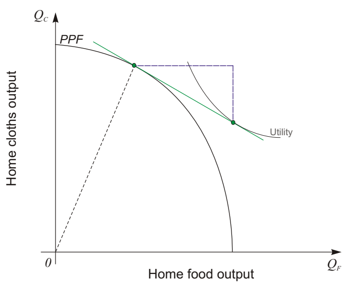
- In autarky, Home's relative price of machinery P_M/P_F is 3, while Foreign's relative price of machinery P_M^*/P_F^* is 1. Under free trade, which good will Home export?
- Capital endowments in the Home country grow faster than any other factor endowment at home or abroad. Will the Home terms of trade improve or deteriorate?

2 Trade and Tariffs: 10 minutes

Consider a Standard Trade model. Comparative advantage may stem from productivity or endowment differences.

There are two goods: Cloth and food. The figure below depicts a trade equilibrium in the absence of tariffs and subsidies.

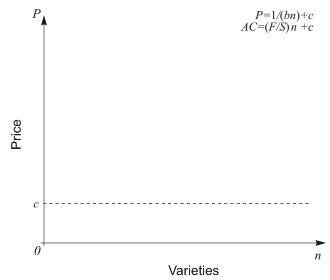
- Home imposes a tariff on food. There is no direct intervention in cloth markets. Using the figure below, depict graphically the relative price of food for the production sector at Home (P'_F/P'_C) when tariffs are imposed. Indicate the new product mix at Home.
- Home is a small country and its tariffs have no effect on world prices. Using the figure below, depict graphically the *trade line* (*isovalue line*), along which the Home country can trade on the world market in the presence of food tariffs.
- Does Home gain in welfare terms from food tariffs?



3 Intra-industry Trade and Trade Barriers: 10 minutes

Consider an Intra-industry Trade model. Varieties of chairs are produced under economies of scale but with constant marginal cost c.

- Explain in one sentence what profit maximization implies for the relationship between price and varieties on the market. Depict the price-variety relationship in the figure below.
  [*Hint.* If you find it useful, you may refer to demand $Q_i = S/n - Sb(P_i - \bar{P})$ or marginal revenue $\text{MR} = P^d(Q_i) - \frac{1}{b \cdot n}$.]
- Explain in one sentence why free entry implies that average cost equals price in equilibrium. Depict the average-cost-variety relationship in the figure below. Identify the (symmetric) chair market equilibrium.
  [*Hint.* If you find it useful, you may refer to total cost $\text{TC} = F + cQ_i$.]
- Home restricts imports and exports of chairs so that the size of the world market shrinks to $S' < S$. What happens to the price for chairs in (symmetric) equilibrium? What happens to the number of varieties?



4 Reciprocal Dumping: 10 minutes

Consider a monopolist with increasing marginal cost ($\text{MC} = cQ_i$). A price P^* prevails on the competitive world market. The domestic market is protected.

- Using the figure below, depict the monopolist's sales to the domestic market and infer domestic price.
- All barriers to trade are removed so that foreign competitors start selling to domestic consumers at world-market prices. What quantity is supplied by the local firm, what by foreign competitors?
- Depict the efficiency gains from trade as measured by consumer surplus.